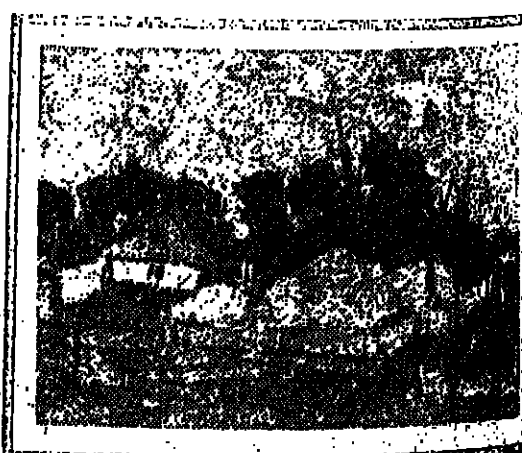
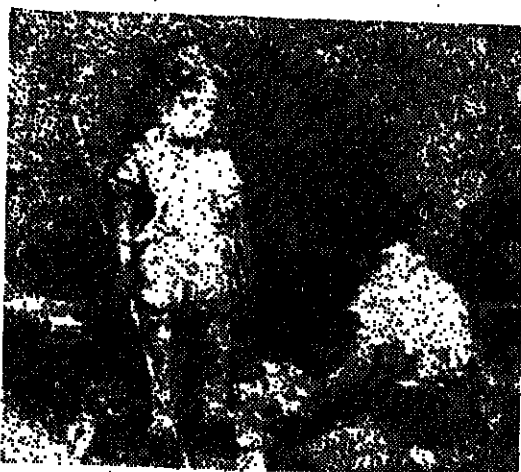


The significant number of valuable achievements has earned the painting of Todor Hristov (b. 1914) a well defined place in the annals of the Bulgarian art of the century. An exceptional colourist, he painted with the feeling of a poet, turning a ritual, celebrating affective, ethical and moral constants characteristic of the native spiritual life. He evoked them with the discretion of a privileged energy which has been markedly enriched by a subtle harmonic breath on his expression. A restless temperament, he has been permanently concerned with the diversification of his themes, developing a variety of harmonizations in consonance with a sensitivity acutely springs in the process of creation. A reflex of the spiritual values specific to this sensitivity, the painted imagination, an attitude towards grave intonation of subtle sincerity. Such an intonation moved to his full accord with the particular resonance of an ancestral celebration, bringing as eloquent arguments in the material and spiritual reality of the inhabitants of the intra-Carpathian area.

In the last analysis, Todorov's argument becomes a remarkable confirmation of the Bismarckian aphorism which has been attributed from the beginning of the spring providing the organized movements are silent. Our painting tradition has provided my arguments with abundant evidence. "The art treasures and 'superstitions,'" he wrote, "I did not have the intention of abolishing or do something new; but I wished, and still do, waste myself, and may perhaps from a natural frankness to express myself individually, adhesion to a stylistic matrix and hierarchy of representative artistic values."


L. NEGOITA ■



# ROMANIAN NEWS

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# ROMANIAN NEWS

**ELEVENTH YEAR**  
**17 (526)**  
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**1988**  
**16 PAGES — 3 LEI**

INFORMATION AND COMMENTARY WEEKLY PUBLISHED BY THE ROMANIAN NEWS AGENCY (AGERE) FOR

# AT THE INVITATION OF NICOLAE CEAUȘESCU MILOŠ JAKES'S FRIENDLY WORKING VISIT

At the invitation of the General Secretary of the Romanian Communist Party, Romania's President, Nicolae Ceaușescu, the Secretary-General of the Central Committee of the Communist Party of Czechoslovakia, Milos Jakes, paid a friendly working visit to Bucharest on April 27.

During the visit, President Nicolae Ceausescu was handed by Milus Jakes the "White Lion" Order, 1st class with collar, awarded on the occasion of his 60th birthday "for his contribution to the development of the collaboration between the Romanian Communist Party and the Communist Party of Czechoslovakia, between Romania and Czechoslovakia, to the consolidation of the friendship between the Romanian and Czechoslovak peoples, to the promotion of the general cause of socialism, peace and collaboration in the world.

During the talk, Nicolae Ceausescu presented the activity conducted for implementing the Party's Programme of building the multilaterally developed socialist society and Romania's advance towards communism, as well as the measures taken for the intensive development of industry, agriculture, the other branches of the national economy, for the broad promotion of technical-scientific progress, the first application of the scientific method to the continuous raise of the material and spiritual living standards, the permanent improvement of the entire system of worker-revolutionary democracy, starting from the fundamental thesis of building socialism with the people, for the people.

In his turn, Milos Jakes informed about the activity carried on by the bodies and organizations of the Communist Party of Czechoslovakia with a view to fulfilling the strategy of stepped-up economic and social development, carrying through the fundamental economic reform, restructuring social life, deepening the socialist democracy, improving the cadre

According to the Joint Communiqué released, Nicolae Ceausescu and Milos Jakes examined the stage and development prospects of bilateral collaboration. Satisfaction was expressed at the relations between the two states, which follow an ascending, dynamic course, according to the principles of full

equally of rights, national independence and sovereignty, non-interference in domestic affairs and mutual advantage, in line with the provisions of the treaty of friendship, collaboration and mutual assistance and other documents and understandings reached by joint agreement.

Emphasis was also placed on the deciding role of the close

collaboration between the two parties in the expansion and deepening of the Romanian-Czechoslovak relations. The special importance was underscored of summit talks for the development of bilateral collaboration in all fields.

Nicolae Ceausescu and Milos Jakes expressed the two parties' determination to further develop their relations, to ex-

pand the links between the governments, parliaments, mass and public organizations, countries and towns in the two countries, as well as in tourism, with a view to deepening friendship and developing collaboration and experience exchanges in socialist construction.

During the talks the impor-

(cont. on p. 3)

(cont. on p. 3)

**FOREST RESOURCES:  
ADMINISTRATION AND PROSPECTS  
(PAGE 5)**

# THE PEOPLE OF THE DEPTHS

# THE TIME TUNNEL

**PERPETUAL ACCUMULATOR?**  
(PAGES 8-9)

## CULTURAL NEWS

**THE UNIVERSITY OF CHICAGO**

# THE PRESENT AND FUTURE OF THE VERB "TO BUILD"

(PAGE 4







# THE PRESENT AND FUTURE OF THE VERB "TO BUILD"

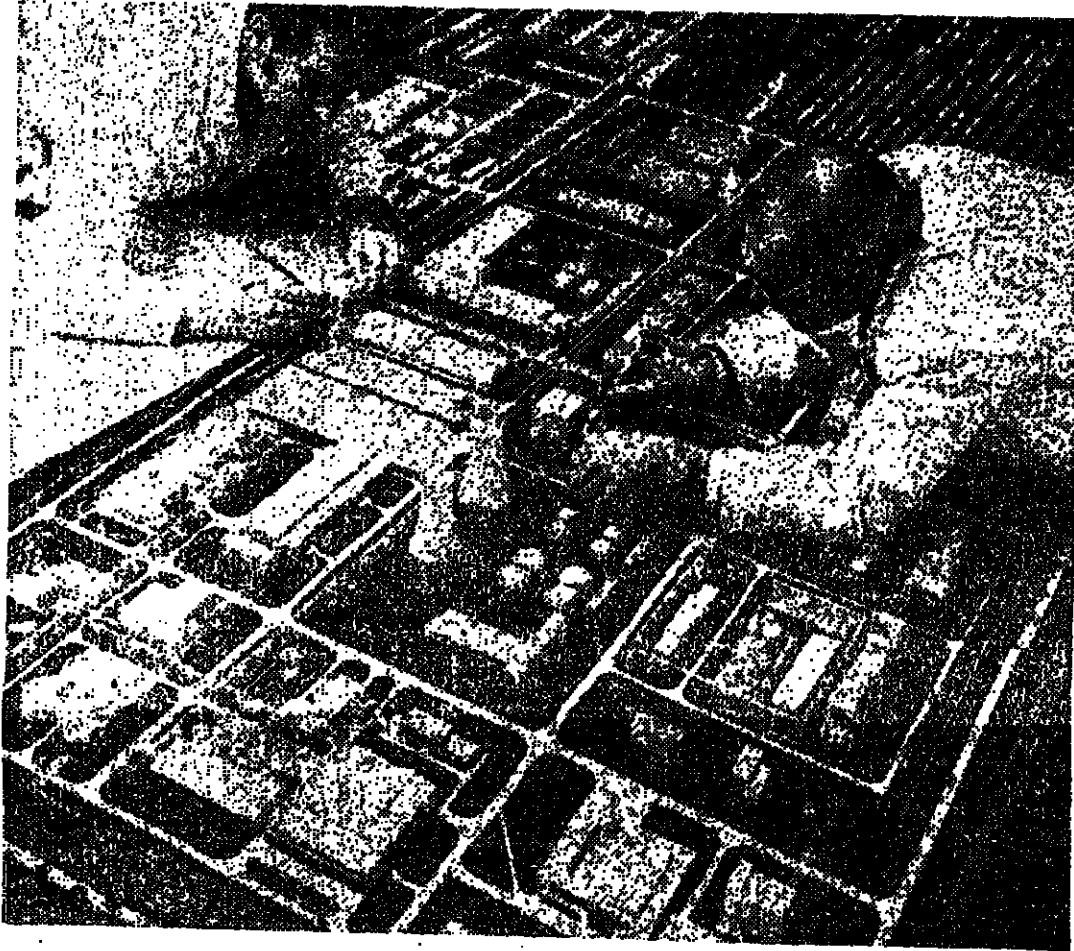
The romantic content of the verb "to build" has considerably been enriched in the last few years. If we refer to houses, for instance, the verb "to build" no longer conjures the image of the mason who used to erect a wall holding the trowel in one hand and the brick in the other. We tend to think in the first place of a forest of cranes holding fully finished walls or even whole bathrooms equipped with everything they need.

The millions of dwellings built in Romania in the last few years have fundamentally changed the look of the country's localities. In this period "to build" meant the emergence of modern factories and works clustered in gigantic industrial areas, vast hydropower projects and irrigation systems which have redesigned river geography.

The Romanian constructors' efforts have been focused these years on the durability, functionality

and aesthetics of the new edifices and even on reducing the utilization of high energy-consuming materials, on using solar energy, recovering waste heat etc. We should mention on the other hand that each building that has been erected, of greater or lesser importance, is a unique of its kind. Whether they build a new residential district, a new section of the underground or a new hydrotechnical project, constructors must be prepared to offer the most efficient solutions.

Set up 35 years ago, the Institute for Research in Construction and Construction Economy brought together and groomed that nucleus of experts who have contributed to everything that has been achieved in Romania in the last few years. And if today we can speak of a number of Romanian priorities in construction, the experience they have acquired has naturally been decisive.



## AUDITORIUM ACOUSTICS SPECIALISTS

Years ago, one used to resort to foreign specialists for the acquisition of great performance skills. Awa, the young engineer Felro Lazăr Șerban's pursuits during his student years, the Institute's scientific director, Romulus Conșinănescu asked him to come and work as a researcher at the Institute. In a comparatively short period of time Felro Lazăr Șerban completed his training and now he heads the acoustics collective which has solved acoustics problems at numerous edifices.

The Palace Hall, the Palace of Young Pioneers and Homeland's Falcons, the National Theatre are only a few of the constructions where the institute's experts proposed optimum

solutions for the hall's acoustics.

After acquiring international renown, the Boumangh experts were consulted on the inauguration of the Palace of Culture in Prague and recently they were involved in a courageous re-education of sound pollution through a new arrangement of the buildings in Berlin's Marzahn district. The residents of the new flats will have to thank the countless of passionate experts for their hard work and loyalty which will find there.

Performance hall acoustics, fighting sound pollution and, last but not least, attenuating the reflection of buildings by equipment—these are the questions to which research has provided efficient solutions.

# A LOOK INTO CONCRETE

This twofold training as a constructor and physicist has enabled Ion Fickoreau to assert himself in a highly novel area: nondestructive concrete testing methods.

Building is going on all over the world, and people want their contributions to endure. Testing the strength of concrete and destroying it has become a kind of stringent military. Ion Vălcovschi's work, written in collaboration with R. Jonea, who initiated research in this field — The Nondestructive Testing of Concrete — has been translated in many countries. Participations in numerous international symposia attest the interest taken in the Romanian contributions to the subject.

Where do we stand as far as worldwide nondestructive testing is concerned? That was a question the researcher himself asked, then answered, without my intervention, while showing me the numerous Romanian and foreign publications presenting the latest breakthroughs in the field: "We are the best," he

In our photos: The performance hall of the House of Culture in Satu Mare (top). Analysing the scale model of a future industrial area (middle). The Trade Union House of Culture in Satu Mare (bottom).

## THE SUN USED IN THE KITCHEN

We rank among the first four countries in the world as regards the use of the sun's energy. Speaking about the development of solar energy, the chief solar energy was engineer Tendor Terekenov. "A few districts in Buchara, Tashkent, Bakhda, and Murgap are especially rich in the sun's energy. When installations are carefully built and, even, the results do not belie the old saying that the sun is the source of life," the Muzin Architecture Institute who have started working out technical solutions likely to harmonize the energy of the sun with the architectural aesthetics of buildings, in the use of these resources, this country has opportunities to develop the construction materials to the interrelation of each area, these opportunities have laid their impulse to the development of a complementary resource.

both the sun's energy and the recovered heat have called for constructive solutions validated by research, design and manufacturing. On searches there have been quite numerous and on many occasions promising. The use of the hot-house effect in heating dwellings is one of the relatively simple solutions proposed by builders. Recently, new innovation has been biomimologated — a transparent element for capturing the sun's energy, which can be used as a complementary source of energy.

"Powerfully developed in recent years has been the harnessing of other secondary energy sources. For heating the domestic water supply and even dwellings, thanks to fruitful researches and tests, builders now have at hand a few adequate solutions".

## THE HUMAN DIMENSION

We are living in a built universe. The remark was made by the scientific director of the Institute of Resources in Construction and the Economy of the Romanian Academy of Sciences. He is a man who has dedicated his life to construction. Appointed head director of the Institute when he was 37, Roumenko's institute when he was 40, blended his own aspirations with those of the body of researchers with over 100 specialists. With the help of a brilliant work force, based on the experience and capacity of an exceptional researcher, an experience he shared with his students, he has become the source of lectures on modern building technologies. Referring to these technologies, he also spoke of the Romanian priorities: "We are now turning our countries in the world to have used profitable, prestressed concrete, anti-corrosive protection and other systems. Sometimes, major solutions have been worked out in record time, after

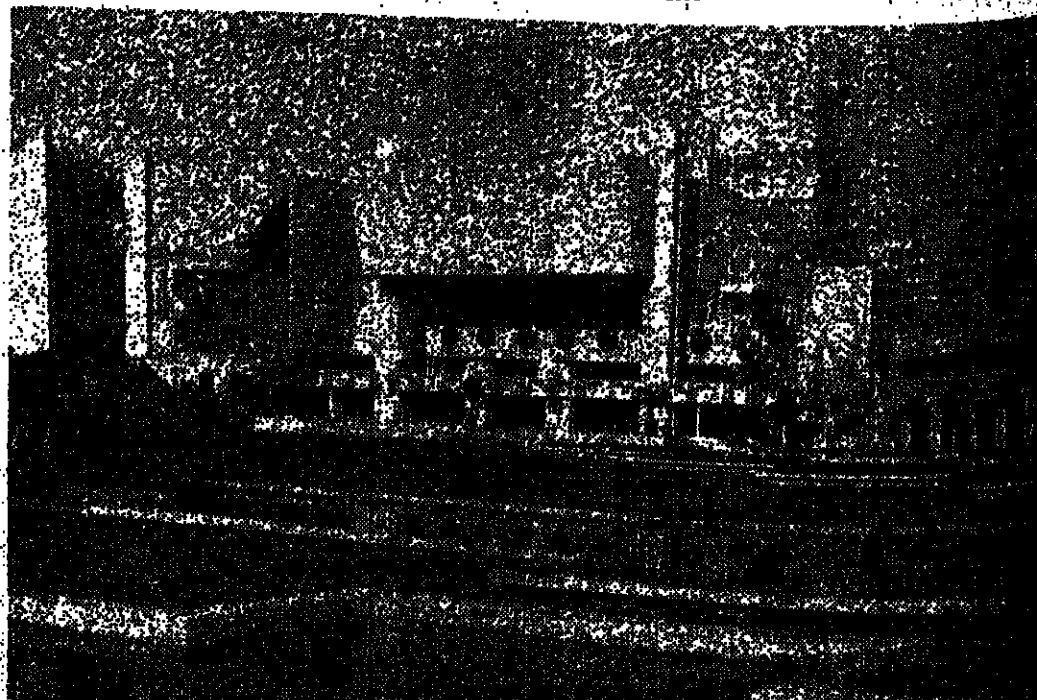
the 1977 earthquake, many buildings required strengthening works. Thus the Romanian method of strengthening reinforced-concrete buildings by placing them with glass fibre fabrics glued with the help of epoxy resins was born. The method devised by us successfully passed the test of the 1980 tremor".

"What qualities do you expect to find in a builder?"

"First of all courage, love of it. At the beginning of my activity I was assigned a difficult task — building furnace No. 1 at Ilundara. The success of this work made me more confident, more self-assured."

From what my colleague said, I gathered that, beyond the development of a highly productive technology, a constructor's satisfaction is that of the man fully dedicating himself to the work he is doing. Therefore building means dedication.

T. MARIN:



## 5

# FOREST RESOURCES: ADMINISTRATION AND PROSPECTS

Romania's forests hold a foremost place in Europe — Ion Tităres, Deputy Minister of Silviculture, said in an article recently published by *Scintila* newspaper. The value of our forest resources, the results scored in lumbering and wood-working prove that Romania promotes an active and rational silvicultural policy. A complex legislation firmly protects the generous idea that the conservation of forests, of the woody vegetation outside the forest estate, is in the interest of our entire society and constitutes a social matter, a duty of all citizens.

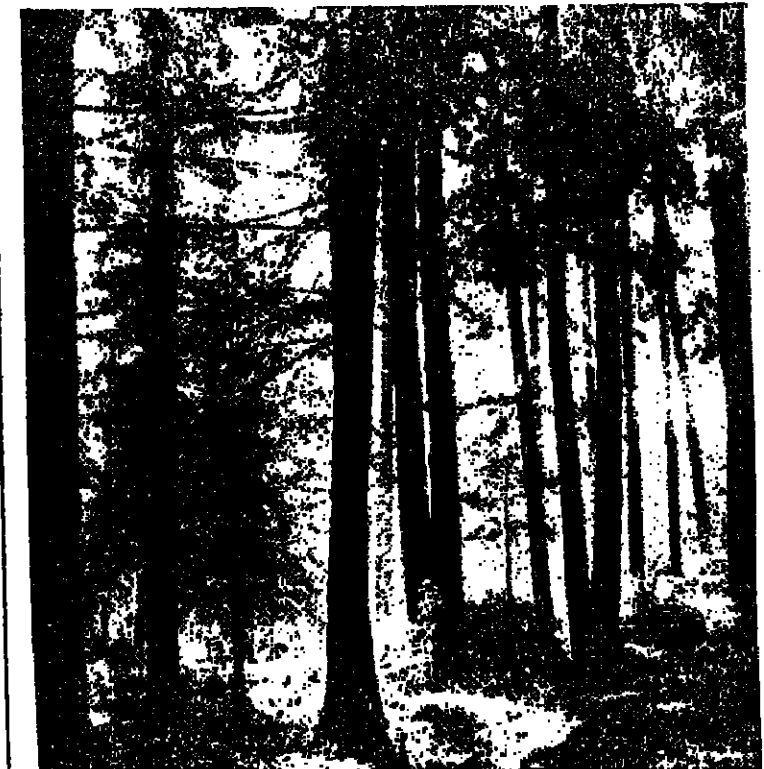
New measures have recently been legislated, aimed at the continual growth of the national economy on the basis of the nationalization of their multiple productive forces. For the next five years, the State Enterprises have the task to fulfill the established goals, so that we may leave to future generations a healthy and a trimony judiciously distributed over the country's territory and having a productive potential which will enable the economic development targets.

It is on these major demands that are founded the provisions of the No. 224/1987 Law of the Grand National Assembly on October 30, 1987, on the protection and development of forests, on the rational use of the forestation and the maintenance of ecological balance. In this context, the Ministry of Agriculture and the Ministry of Silviculture are

concerns the preservation of the integrity of the forest stock and the conservation of forests by leaving wooded areas, rigorously observing annual tree felling quotas, avoiding the harrowing of the soil through tree felling, promoting the growth of valuable indigenous species, creating conditions for forest regeneration. It has also been decided to take energetic measures in order quickly to restore to the economic circuit all unproductive land areas excessively degraded, posing hiding dangers, unfit for agriculture — especially through their afforestation.

An important place among the actions being taken for the good management of the forests has been held by the measures ensuring the proper application of treatments preventing and fighting pests and diseases. Among the measures aimed at ensuring the health of the forests we are mentioning the fact that the national, regional, local, state and cooperative bodies which subordinated units whose activities are aimed at protecting and harming the forest stock and the vegetation outside it, are obliged to take the necessary measures to prevent the negative consequences of these activities. Mention should be made in this regard that the forest from the legal norms and a lack of responsibility can still be noticed with certain elements of the forest activity, which reduces the forest stock.

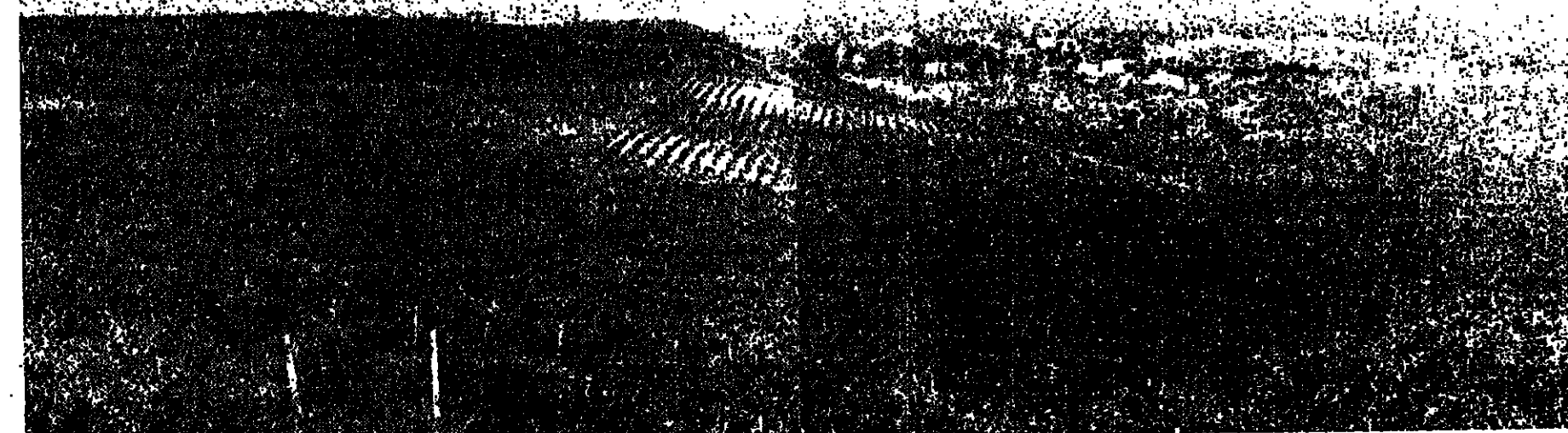
These measures in the forestry sector are closely connected with a rigorous control of the observance of silvicultural rules in the process of lumbering and with respect to the prevention of delayed regeneration of forests by natural means or by plantations on all annually cleared areas. In order to protect the forests, in keeping with the unitary afforestation programme, 14,708 ha of highly erodible, flood-prone territories, are to be afforested this spring, so that wide areas of the country's landscape, particularly in the Vrancea, Buzău, Iași, Vrancea and Vâlcea counties, where the harmful effects of the droughts and floods are still clearly felt, will become permanently useful. These works take place concomitantly with those restoring agricultural lands, another help to the country's food which will enable one to avoid the negative effects of climatic factors — diminishing or excluding the possibility of the erosion of the soil, owing in the Romanian Plain where afforested areas are too small at present. Over all the years of the country's economic development, the large-scale decisions and redemptive aspects of great economic value will be used, so that their success will be greater. The development of healthy and productive forests, with increased protective and productive functions, will ensure that the country's total 6.5 billion ha of woodland which will account for 27 percent of the country's territory



## THE CITY OF VINEYARDS

The settlement goes a long way back into history. Huh, an eastern town of Vaslui county (covering the central part of Moldova) appeared in documents issued under the rule of

later, in 1969, the marketable production rose to 18 million lei with the total grapes production standing at 7,000 tons (an average 4,170 kg per ha) and the wine production being of



Stephen the Great (1577-1593). In 1529, the town numbered over 7,000 inhabitants. Today the population has doubled. Over this interval and especially over the last two decades more than 3,600 new apartments were built, in which over 28,000 new residents were added alongside the modernization of some other 3,000 lodgings. The secret of the development of this young town lies partly in its famous vine crops. Watching the villages on the top of the hills, as far as the eye could see, there were only vineyards with strong plantations in fruit on fertile, well-watered lands, stretching over the slopes of the Scaevola, the Quercus, the Fagus, Castor and Yucca hills.

Dr. Carl Ross (Nampa), director of the Earl Sline Farming Enterprise, has been concerned for a lifetime with the problem of raising the grade which exists in these places. He has been working in this field for over 25 years, and for the last 10 years, he has been director of the farm and milk. While in 1935, when he was set up the enterprise, the herd consisted of 1,300 head of non-productive milk cows and had remained over 5,000 head. He has since reduced the herd to a little more than 1,000 head, and he has been raising and selling a few head of non-productive milk cows, and there is now a bull herd consisting of 100 head of milk cows. It is a really interesting and instructive evolution. In the September year 1935, the enterprise was set up with a herd of 1,300 head of non-productive milk cows, and the production per head was 100 lbs. of milk per year. In 1937, the production per head was 1,000 lbs. of milk per year.

418 waspish. In their love for wine growing, for farming generally, the people have surpassed themselves, and their results were truly remarkable. "We have had to lay out the plantations in a system of platemarks, not of terraces, as we had previously been accustomed to," my collector said. "We also had to elevate the vineyards up to altitudes of 550-600 meters above sea level, where the formerly barren, lifeless hills."

The results were not late in appearing. There were years when coriols wine, growing from the vineyards, was sold for more than 100 francs on areas covering hundreds of hectares. The vineyard of the Haut plateau

farming enterprise provides mostly wine, grapes of highly valuable varieties and small quantities of fruit. A monograph devoted to the Ilust. farming enterprise reads: The Ilust vineyard produces 200 tons of wine, 200,000 kg. of grapes, 200,000 kg. of the Zghihar de Ilust and Busuioara de Dohoteni varieties. Such like of the Ilust vineyard, Ilust variety, and even if each of them has an unbreakable potentiality, it is only taken to others that are superior to the vineyard which has cultivated them for centuries.

Since 1958, the Ilust farming enterprise has held the first place in the country for its production of wine. It has also been the first in the country to have been named after a famous personality from among other important towns.

T. NITESCU □

**T. NITESCU** □



## THE PRESENT AND FUTURE OF THE VERB "TO BUILD"

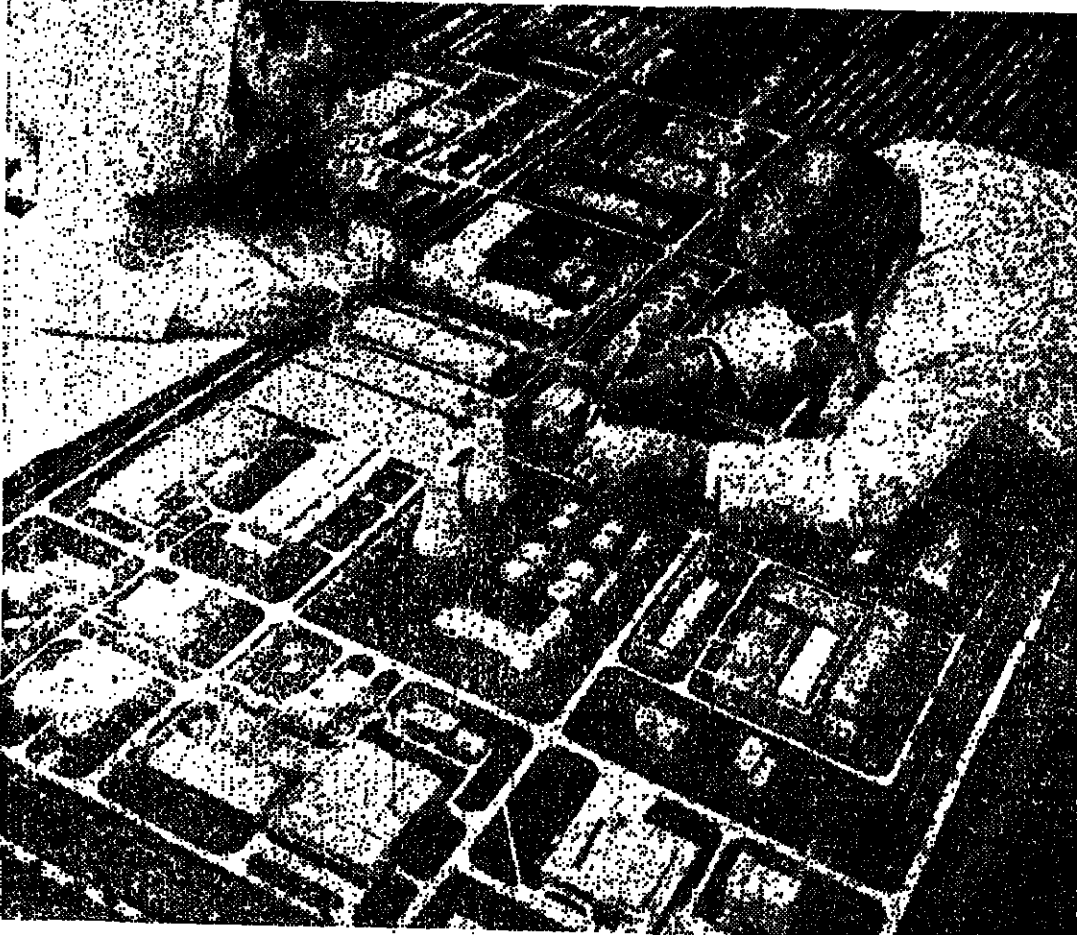
The semantic content of the verb "to build" has considerably been enriched in the last few years. If we refer to houses, for instance, the verb "to build" no longer conjures the image of the mason who used to erect a wall holding the trowel in one hand and the brick in the other. We tend to think in the first place of a forest of cranes hoisting fully finished walls or even whole bathrooms equipped with everything they need.

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## AUDITORIUM ACOUSTICS SPECIALISTS

Years ago, one used to resort to foreign specialists for the acoustics of great performance halls. Aware of the young engineer Felix Lazăr Serban's pursuits during his student years, the Institute's scientific director, Romulus Constantinescu, asked him to come and work as a researcher at the Institute. In a comparatively short period of time, Felix Lazăr Serban completed his training and now he heads the acoustics collective which has solved acoustic problems at numerous edifices.

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Performance hall acoustics, fighting sound pollution and, last but not least, attenuating the deterioration of buildings by equipment vibrations are questions to which research has provided efficient solutions.

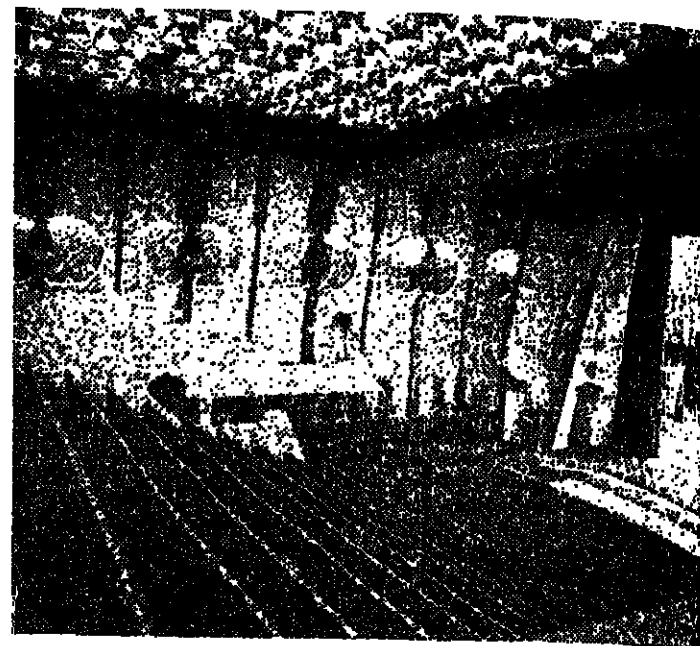
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Where do we stand as far as worldwide nondestructive testing is concerned? That was a question the researcher himself asked, then answered, without any intervention, while sipping one of the numerous Romanian and foreign publications presenting the latest breakthroughs in the field: "We are the best," he said.

In our picture: The performance hall of the House of Culture in Satu Mare (top). Analyzing the scale model of a future industrial area (middle). The Trade Union House in Cluj (bottom).



## THE SUN USED IN THE KITCHEN

We rank among the first four countries in the world as regards the use of the sun's energy. Speaking about the development of technologies using solar energy was engineer Teodor Terechianu. "A few districts in Bucharest, Timisoara, Bacau, Meididia are successfully using the sun's energy. When installations are carefully built and used, the results do not belie the results. Jointly with the Ion Mincu Architecture Institute we have started working out technical solutions likely to harmoniously integrate themselves with the architectural aesthetics of buildings. In the use of these resources, this country has specific particularities. From construction materials to the microclimate of each area, these particularities have laid their imprint on the techniques used. As complementary sources,

both the sun's energy and the recovered heat have called for constructive solutions validated by research, design and manufacturing. The searches have been quite numerous and on many occasions promising. The use of the greenhouse effect in heating dwellings is one of the relatively simple solutions proposed by builders. Recently, a new innovation has been homologated — a transparent element for capturing the sun's energy, which can be used as a complementary source of energy.

"Powerfully developed in recent years has been the harnessing of other secondary energy sources. For heating the domestic water supply and even dwellings, thanks to fruitful researches and tests, builders now have at hand a few adequate solutions."

## THE HUMAN DIMENSION

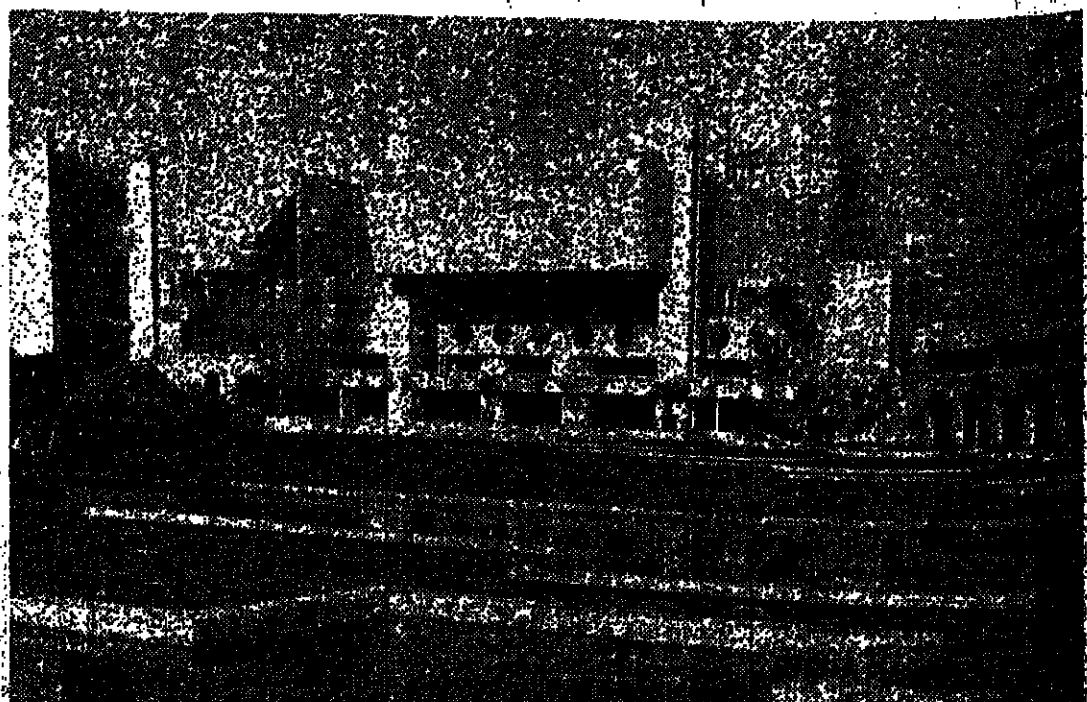
We are living in a built universe. The remark was made by the scientific director of the Institute of Researches in Construction and Construction Economy, Romulus Constantinescu. He is a man who has dedicated his life to construction. Appointed head director of a research institute when he was 37, Romulus Constantinescu has blended his own aspirations with those of the body of researchers. His over 100 published works capillaries on the experience and capacity of an exceptional researcher, an experience he shared with his students through his course of lectures on modern building techniques. Referring to these techniques, he also spoke about a few Romanian priorities: "We are one of the few countries in the world to have used, perhaps, pre-stressed concrete, anti-bombing protection on a large scale. Sometimes, major solutions have been worked out in record time. After

the 1977 earthquake, many buildings required strengthening works. Thus the Romanian method of strengthening reinforced-concrete buildings by joining them with glass fibre is being glued with the help of epoxy resins was born. The method devised by us successfully passed the test of the 1985 tremors."

"What qualities do you expect to find in a builder?" "First of all courage, lots of it. At the beginning of my activity I was assigned a difficult task — building furnace No. 1 at Timisoara. The success of this work made me more confident, more self-assured."

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T. MARIN



## FOREST RESOURCES: ADMINISTRATION AND PROSPECTS

Romania's forests hold a foremost place in Europe — Ion Tăbăraș, Deputy Minister of Silviculture, said in an article recently published by Scinteia newspaper. The value of our forest resources, the results scored in lumbering and wood-working prove that Romania promotes an active and rational silvicultural policy. A complex legislation firmly protects the generous idea that the conservation of forests, of the woody vegetation outside the forest stock is in the interest of our entire society and constitutes a state matter, a duty of all citizens.

New measures have recently been legislated, aimed at the continual growth of the forest contribution as part of the national economy and the intensification of their multiple protection functions. We, present-day generations, have the task to fulfill the established goals, so that we may leave to future generations a healthy forest patrimony judiciously distributed over the country's territory and having a productive potential apt to meet the country's economic development targets.

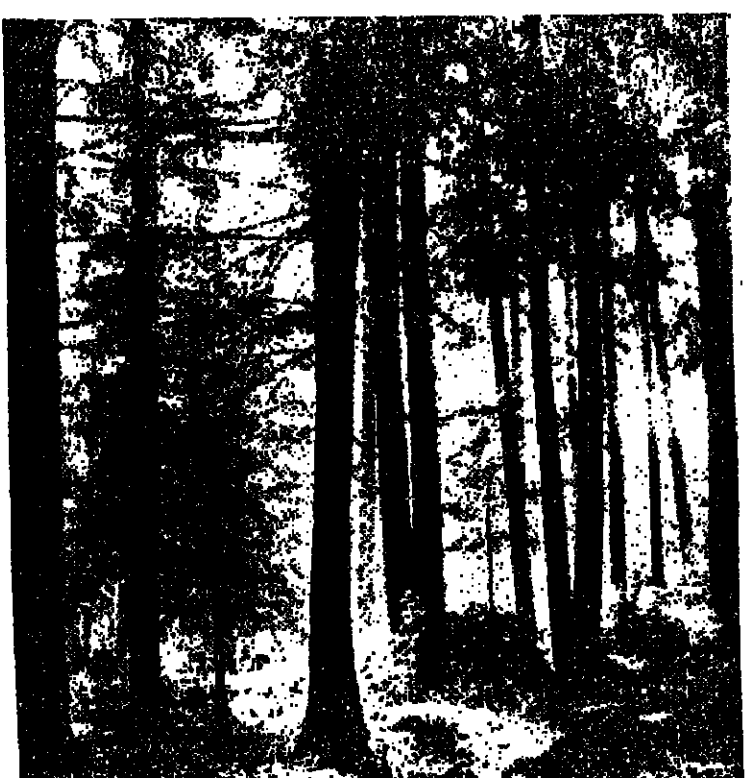
It is on these major demands that are founded the provisions of the Law No. 2 passed by the Grand National Assembly on October 30, 1987, on the protection and development of forests, their rational economic exploitation and the maintenance of ecological balance. In this context, special tasks devolve on the Ministry of Silviculture as

concerns the preservation of the integrity of the forest stock and the conservation of forests by increasing wooded areas, rigorously observing annual tree felling quotas, avoiding the burning of the soil through tree felling, promoting the growth of valuable indigenous species, creating conditions for forest regeneration. It has also been decided to take concrete measures in order quickly to restore to the economic circuit all unproductive land areas — excessively degraded, posing sliding dangers, unfit for agriculture — especially through their afforestation.

An important place among the actions being taken for the good management of the forest stock is held by those concerning the proper application of treatments preventing and fighting pests and diseases. Among the improvements of the norms ensuring the health of the forests we are mentioning the fact that the ministries, the other central and local state and cooperative bodies which subordinate units whose activity can pollute the environment, harming the forest stock and the vegetation outside it, are obliged to take the necessary measures for eliminating all negative consequences of these activities. Mention should be made in this respect that deviations from the legal norms and a lack of responsibility can still be noticed with certain enterprises which, by their activity, prejudice the forest stock.

These measures — the article goes on — are closely connected with a rigorous control of the observance of silvicultural rules in the process of lumbering and with the imperative of an undelayed regeneration of forests by natural means or by plantations on all annually cleared areas as well as in open spaces amid the forests. In keeping with the unitary afforestation programme, 11,700 ha of highly degraded soil, unfit for agriculture, are to be afforested this spring, so that wide areas of the country's landscape, particularly in Constanta, Tulcea, Buzău, Vrancea and Vaslui counties, where the harmful effects of the drought and floods are still strongly felt, will become economically useful. These works take place concomitantly with those restoring agricultural shelter belts and communications, which will enable one to avoid the negative effects of climatic factors — diminishing or causing the instability of farm crops — in the counties lying in the Romanian Plain where afforested areas are too small at present. Over all the areas due to be afforested, seedlings of indigenous deciduous and resinous species of great economic value will be used, so that their structure may ensure the development of healthy and productive forests, with increased protective and productive functions.

In 1990, Romania will have a total 6.6 million ha of woodland, which will account for 27 per cent of the country's territory.



## THE CITY OF VINEYARDS

The settlement goes a long way back into history. Just an eastern town of Vaslui county (covering the central part of Moldavia) appeared in documents issued under the rule of

later, in 1669, the marketable production rose to 38 million lei with the total grapes production standing at 7,000 tons (an average 8,170 kg per ha) and the wine production being of



Since the beginning of the spring afforestation campaign new plantations have been laid out on 24,500 ha, 6,255 ha of which are unfit for agricultural use.

This year, special attention is granted to the afforestation of aridities and other areas which cannot be used for farming. So far 3,988 ha included this year in the forest stock as well as another 3,287 ha taken over from different owners have been afforested. According to the data centralized at the Ministry of Silviculture, in the counties of Constanta and Vaslui 1,500 and 1,500 ha of degraded land respectively were afforested.

The Orilga slope near the town of Măcin looks like a hill but is a remnant of the Hordol Mountains, the oldest land in Europe. A century ago the old oak forest were cut down and the remaining area used for grazing. The wind and water washed the thin layer of earth and grass and more and more rocks appeared. The erosion phenomenon threatened the landscape with turning the green hill into a desolate landscape.

Seven years ago trees started to be planted again. Now the forest has reached the height of town buildings. Măcin Silvicultural Department planted a forest of 1,000 ha these years.



Stephen the Great (1457-1507). In 1984, the town numbered over 17,000 inhabitants. Today, the population has doubled. Over this interval and especially over the last two decades, more than 5,500 new apartments were built, to which over 888 private houses were added, alongside the modernization of some other 3,000 lodgings. The speed of the development of this young town lies partly in working the vine crops. I was watching the view from the top of Hugi hills. As far as my eyes could see, there were only vineyards with strong plants when each vine had reached inside, stretching over the slope of the Hugi or Calabura, Dubor, Flegu, Cotel or Volosani hills.

Dr. eng. Ion Neamtu, director of the Hugi State Farming Enterprise, has been concerned for a lifetime with "returning to light" the grape vine in these places. He had been also in the field for over 30 years and for over 35 he has been director of this farming unit. While in 1959, when it was set up the enterprise had 108 ha of vine, as well as 1,300 ha of non-productive land, now it has reached over 6,000 ha of fertile land, out of which 2,000 ha with properties and 5,000 ha with wheat and corn crops. Besides, there is also a bull farm occupying over 2,000 hectares.

It is a really surprising agricultural production. In the past, the vineyard was used for the production of 2.5 million lei of grapes production per ha was 8,170 kg per ha. Now, the vineyard is producing 100 tons of grapes per ha.

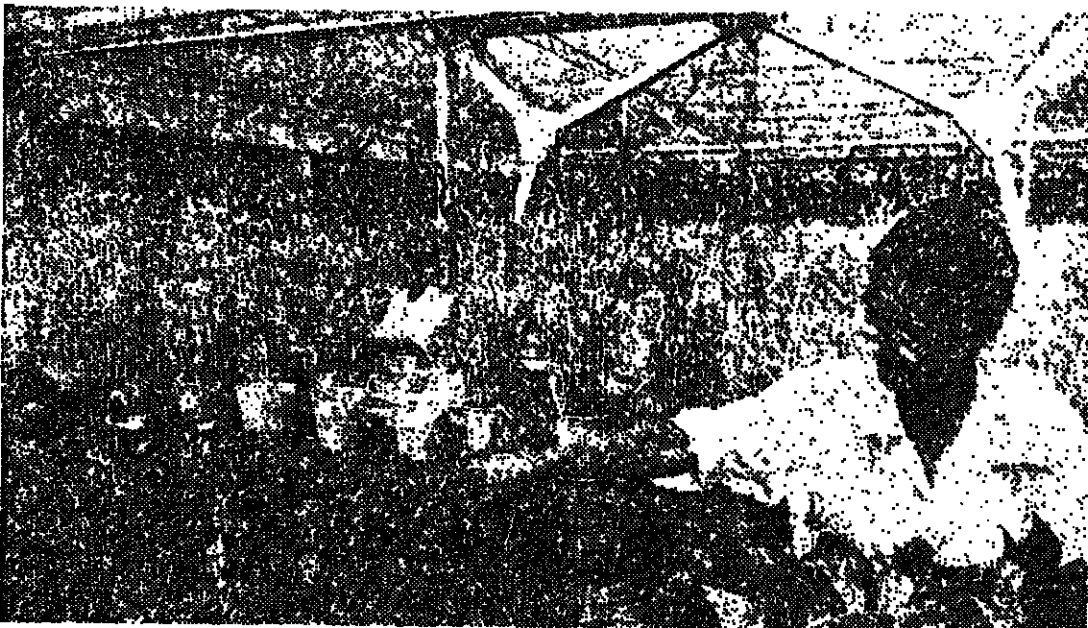
448 wagonets. In their love for wine growing, for farming generally, the people have surpassed themselves, and their results were truly remarkable. "We have had to lay out the plantations in a new way, according to the system of plantations, not of terraces, as we had previously been accustomed to", my colleague said. "We also had to elevate the vineyards up to altitudes of 300-400 meters, thus capitalizing on the formerly barren, idle hills."

The results were not late in appearing. There were years when certain vines, growing faster obtained 10,000, 10,000 kg of grapes per hectare on areas covering hundreds of hectares. The vineyard of the Hugi State Farming Enterprise provides nearly 100,000 kg of highly valuable varieties in great demand. A monograph devoted to the Hugi farming enterprise reads: "The Hugi vineyard preserves the patrimony of the Zghihara de Hugi and Hustonca de Hugi varieties. Just like the Hugi vineyard, do these varieties, and even if each of them has an unmistakable specificity, it is only taken together that they account for the specificity of the vineyard which has cultivated them for centuries."

Since 1984, the Hugi farming enterprise has been producing 100,000 kg of grapes per hectare. The vineyard is producing 100 tons of grapes per ha.

T. NITESCU





## HORNED OR DEHORNED?

What should a cow be like: horned or dehorned? From an aesthetic point of view, the question is meaningless. Pragmatically, cattle breeders judge animals according to the milk production, profitability, the carcase weight increment, etc. It has been noticed however, empirically, that dehorned cows present several advantages, especially in the conditions of breeding in large groups: they are quieter, less aggressive, need smaller folding space and are less accident prone. Moreover, biologists and nutritionists' careful studies have proved that dehorned animals are more efficient, since five-six per cent of the energy taken in is absorbed in the first

identified four hornless bulls and seven hornless cows in his herds, which he multiplied.

Later on, proving to be more profitable, the acornose type transcended the narrow boundary of accidental selection and entered the promised land of genetics.

More recently (1975), dehorned cattle of the Zimmental breed were obtained in Canada through X-ray irradiation. In the USA, dehorning is pursued in Zimmental cows through mating with Aberdeen Angus.

In Romania, geneticists approached this question as early as the 1960s at the Sigheș Station of Research and Production for Cattle Growing and shortly after that, at the Alboia

and milk production. The half-breeds obtained were mated among themselves in order to identify the homozygous animals. Further on, the selection pursued the fixing of the acornose gene, thus laying the basis for a new type within the Bruna de Maramureș breed.

The statistical analysis of the tests conducted at the Sigheș Station reveals the great advantages held out by dehorned cows, yet the researchers' optimism is still moderate. Of the 438 calves obtained since the beginning of the action, 288 (66 per cent) were hornless, which shows that the acornose gene is dominant. The horned gene however is recessive.

As regards the milk output, the cows of the new genotype give a slightly lower production (by 10-12 per cent) but this is considered a consequence of the fact that in the beginning a poorly productive population was used. The shortcoming can be removed through matings with record-holder cows, their descendants giving good and even very good productions. Certainly, it is still too early to decide if the cow of the future will be horned or dehorned. Several research units in Romania are still working on creating large, representative groups of acornose cattle. The sure thing is that the dehorned cattle have passionate, competent advocates not only in this country but also abroad.

G. ȘERBAN ■

## SUGAR FROM CORN STALK

Whether we should or not, we all have a sweet tooth. And the indicator of sugar consumption in the world is on the rise.

In Europe, most people associate the idea of sugar to the white crystals extracted from beet. A team of researchers from the Fundulea specialized research institute in Călărași county has undertaken to change this image established by tradition. They propose to obtain natural sweet substances from other plants than beet, plants adaptable to the temper-

ate continental climate specific to this country. The sugar (the Romanian researchers are seeking will probably not have the form of crystals, but more like that of concentrated syrup, a kind of vegetal honey).

The most tempting promises for the time being are held out by sorghum. The plant comes from ancient Egypt. In Europe it was brought by the Romans, twenty centuries back. Quite interesting is the fact that the Romanian farmers refer to it as gaolian, a popular name used

in China. Until 1940 or so, gaolian was grown on restricted areas in small private farms. A sweet syrup was extracted from it, which, concentrated through boiling, produced the so-called "gaolian honey".

Sugar sorghum rivaled the farming researchers' attention immediately after the war when it was recommended as fodder.

Thanks to its high content of sweet substances (between 15 and 18 per cent), this plant can be processed, for liquid or crystallized sugar as well as for obtaining alcohol to be used by the food industry and even as alternative fuel.

In lab conditions, the Romanian researchers have obtained a fluid having the consistency, colour and taste of high-quality honey. Mentionworthy is the fact that vegetal fibres left after the sweet substances are extracted, is extremely rich in pulp, which recommends it for processing by paper factories. Other plant species currently under study are the reed, the green maize, stems having reached a certain vegetation stage and the water hyacinth, which at maturity is particularly rich in sweet substances.

G. OSTROVANSKI ■

An aspect from a laboratory of the Cereals and Technical Crops Research Institute in Fundulea. (top). A geneticist dehorning a cow. In one of his colonies, the researcher is separating the corn hybrids. (bottom). A corn field at Odorheasa, south of Bucharest.

## SNOW PEA

A plant which should grow in winter. That is an idea which generations after generations of people in the Danubian Plain have considered a dream.

Engineer Constantin Olaru, of the genetics and plant morphology laboratory of the Farm Research Station in Caracal considered the question of using, in winter, areas which are sown only in spring. In this respect, he created a variety of fodder pea resistant to winter colds, which can be sown in mid October, after corn, and is ripe in mid April. Large quantities of fodder, rich in protein are thus obtained. Productions reach several tons of green mass per hectare. The winter pea culture also presents other advantages: it protects soil against degradation, by erosion, gives back land fertility by biological means and avoids the use of big quantities of nitrogen chemical fertilizers etc. These advantages promise to impose the new winter pea. It was homologated and recommended for cultures in several areas of the country. This year, the Farm Research Station in Caracal also handed the Commission for Variety Testing and Homologation new improved varieties of this winter plant.



## ALMONDS ARE IN FULL BLOOM

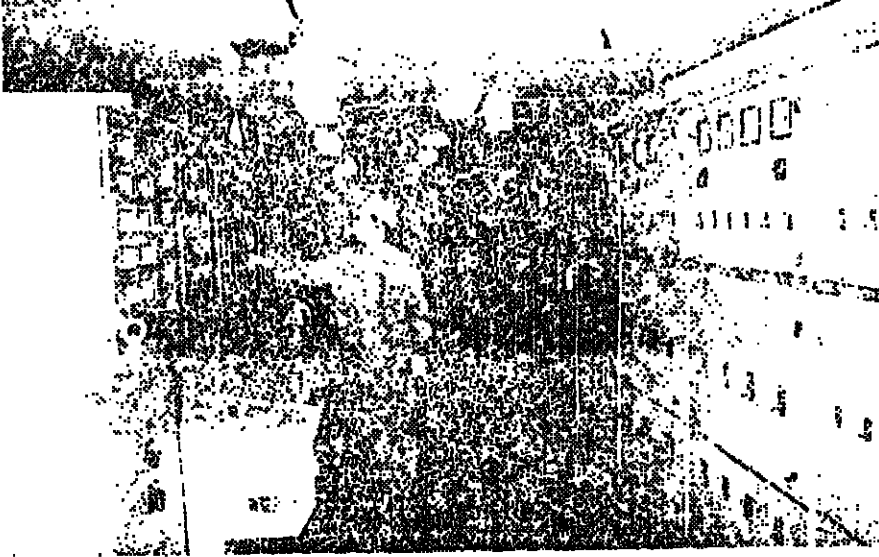
Almond trees are in full bloom in the orchard of the Research Station for Irrigated Cultures in Mărculești, Călărași county. A crop of snow-white flowers stretches on 30,000 sqm. For 30 years, dr. Vasile Coșcu and his collaborators had tested and experimented hundreds of varieties in order to select the best eleven varieties of "prunus dulcis" for culture. Then, the almond tree was extended to the large production through graft branches at Petrești-Ialomița, Valul lui Trăian-Constanța and Negrești-Călărași nurseries. Măr de steapă, Mărculești, Lovrin and Tohani proved to be the most appreciated varieties.

The fruit tree collection of the Mărculești station has almost 400 varieties and hybrids of plum, apricot, cherry, pear, apple and almond trees. In the three decades of existence thousands of grafts left the station and populated and enriched Romanian orchards. Early plants into apricots and Drobia cherry trees varieties were treated there. Mechanical picking can be used for the latter.

A. DAVID ■

## SLAG BECOMES ALUMINIUM AGAIN

Until not long ago, the non-ferrous materials left over after the processing of certain units and substances posed an insoluble problem. Solution to reintegrate them in the industrial flow had to be elaborated. How? The specialists of the Institute of Research, Technological Engineering and Design for Non-Ferrous Ores in Baia Mare municipality — an industrial sheltering powerful extraction centres for this kind of deposits — have devised and achieved an installation for the processing of acidic slag from aluminium waste. Aluminium oxide and aluminium sulphate used in waste-water treatment stations are obtained. The installation has already been brought into operation. Such installations will equip several units meant for the capitalization of the re-usable materials in this country.



## SYMPHONY OF TULIPS

For many years, every spring in Pitești (135,000 inhabitants) the Symphony of

Tulips flower exhibition is organized, covering almost all the green areas of the town.

All the research, flower growing and production institutes in the country are called to participate in this exhibition. Of course, the most important exhibitors are the inhabitants of the town.

Millions upon millions of flowers — most of them tulips — fill the streets, lending them their bright colours, these days.

Undoubtedly, such an event has, over the years, reshaped the conception on the organization of the town's green areas, as well as that on the urban architecture and planning. It has created a more harmonious, cleaner and more beautiful environment.

G. VENTILA ■

## VARIETIES AND HYBRIDS

Researches effected for the colder northern areas of the country in the domain of plant selection at the Agricultural Research Station in Sucosava ended with remarkable successes. Among the varieties and hybrids investigated in 1981, our Mimi Crăciun — the unit's director — mentioned the "Sucosava" potato hybrid, assuring productions of over 400 g per hectare. "Ducovina" and "Sucosava" wheat varieties yielding between 5,000 and 7,000 kg per hectare and the new rye variety "Colofon". At the same time, several corn hybrids yielding over 10,000 kg per hectare were created.

## THE FERRYBOAT'S MAIDEN VOYAGE

On Saturday, the port of Constanța saw the solemn ceremony of holding the tricolour flag on the mast of the first Romanian ferryboat bearing the name of Mangalia city.

Built at the shipyard of Constanța (photo) according to a design drawn up by the Galati shipping research and design institute, the 12,000-ton boat is a true first of the Romanian shipping industry. The highly complex equipment mounted on the Mangalia ferry-boat place it among the most modern and functional ships of Romania's merchant fleet.

The 18-m-long ship can take on board 107 wagons loaded with merchandise, which enter the ship directly on rails and are automatically guided by shooting, holding and lowering systems to swiftness laid out on each of the three decks of the ship.

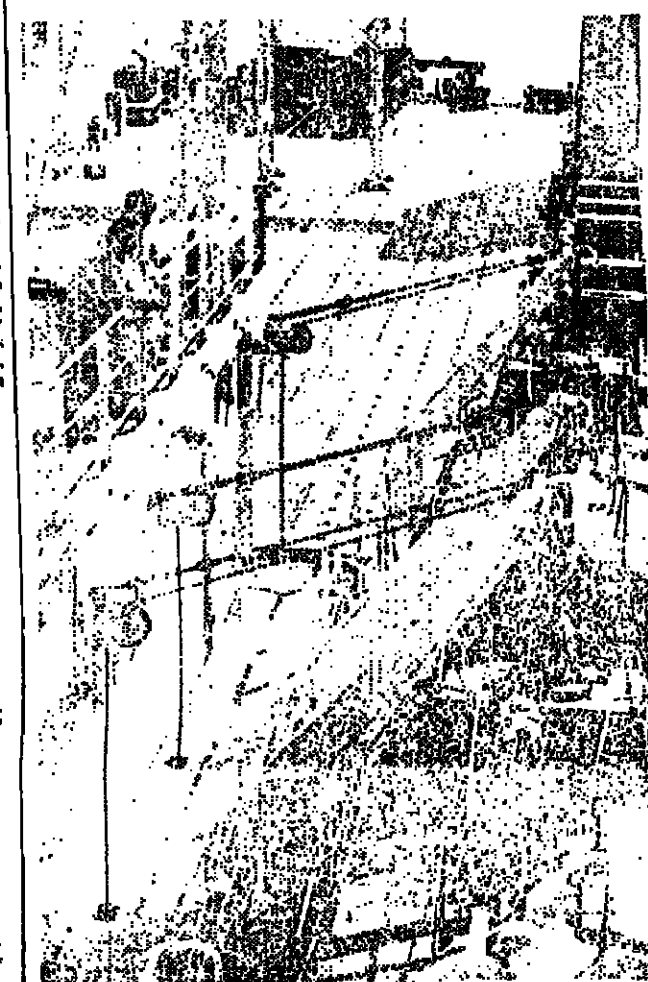
Thanks to certain adjustments the ship can also be used in the Ro-Ro system, thus having the possibility to transport on their wheels more than 100 full trailers, each measuring 13 m in

length. The Mangalia ferryboat has also modern navigation and shooting equipment ensuring its safety in exploitation: a satellite navigation system, collision avoidance radar with optical and sound signalling, an apparatus permanently indicating the depth of water, the motion speed and steering of the ship, a rigging propeller for sway displacement, an installation for static and dynamic trim, a tv closed circuit system, microcom-

ters, etc. In fact many industrial units of high-tech branches have contributed to the construction of the ship. The long-distance trial made at sea confirmed the good operation of the ship in conditions of commercial exploitation.

The Mangalia ferryboat is ready to depart on its maiden voyage, during which it will carry 830 Romanian tractors to Syria.

I. CONSTANTIANU ■



## CHILDREN'S CONTEST

A few years ago, Informatics circles were set up within young pioneers' houses in most counties and within the Young Pioneers' and Homeland's Falcons' House in Bucharest. Their members are by now familiarized with the informatics language. They proved this also during the last winter holidays, in a camp staged specially for them in Vălenia de Jos.

According to statistics, these informatics circles influence some 20,000 children and their number is on the rise. Some of them have already won international prizes in programme contests, such as the one held last year in Bulgaria.

Besides, in parallel with the grown-ups' contest, a contest was organized for the members of the specialized circle of the Young Pioneers' and Homeland's Falcons' House in Bucharest, and even for the representatives of MINICOM circle (about which our magazine spoke before), that is kindergarten-aged children.

C. LUPU ■

## ENERGETICS AND AUTOMATION

The Romanian energy programme aims at both expanding the usable oil and coal reserves and improving exploitation technology. The most updated machine tools are used to open new pits and surface open cuts, as well as to drill new wells, some of them at a very low depth. At Ciompiu, in the Făgăraș Valley, in the oldest European oil field, there is a plant specializing in the production and replacement of electric equipment of automation and radio communication for coal and oil exploitable units.





Quotation from the order of the day registered also in the log-book of the ship Grigore Antipa, on May 8, 1987, the day when the black gold of the marine depths gushed out:

"Working with daringness and skillfulness, frequently in bad weather, turning to good account their knowledge and skills, divers carried out the missions of mounting offshore drilling rigs and the gas pipe.

A special contribution was made by the members of the diving unit who performed complex, high-quality works of welding and cutting under water, at great depth and low temperatures".



## THE PEOPLE OF THE DEPTHS

"It happened a few years ago, on a full-moon night. The border guards' boat was going the routine round when, all of a sudden, the sailor on watch spotted a barge as thick as his arm.

"Some cargo boat must have lost it, but it's good enough for us, too. Stop engine! Recover!"

The first feel of the barge began to emerge slowly, but still no sign of the other end. "Nothing is tied on it, a counter-weight maybe. Slowly as she goes I dare it follow us? Well, no, I think it is we who go after it!"

The barge went deep down into the black waters and would not look up a inch despite the efforts of the border guards' small ship. At the other end there was, an infinitely heavier ship wrecked on the sandy bottom of the sea.

Vasile Pogea, captain of the Emil Racovita underwater research and intervention vessels that, "On the next morning,

from the first dive, we realized it was a ship under foreign colours reported missing for quite a while, without being found by anyone. There was something strange, even mysterious about that ship. First of all no victim was reported and no May Day had ever been sent, as it would have been normal in such desperate situations. Then, our foghorn discovered that the crew had had time enough to "pack" every little thing on board, even the bed mattresses, although the vessel, loaded with rolled goods, had been broken in two.

Drowned 30 metres deep it could have never been possibly found but for the barge story... A small negligence on behalf of the people who abandoned the ship, eager as they were to grab the handsome insurance premium. Our divers shot everything with their cameras, making it clear that the drowning had been caused purposefully.

like Prida (Liberta) Muskiz (Panama), Fernand Blonca (Italy) and Surovica (Bosnia). We pride in our contribution to the success of the extraction of the first quantities of oil and gas from the subsoil of the Black Sea.

At the same time we were present also in other parts of the country where our specialized intervention was needed: at Danubian bridges, at the hydro-power stations of the Iron Gates, Rimnicu Vilcea and Hurez, at the Bucharest Underground, on many hydro-melioration sites, at the Danube-Black Sea and the Paris-Albi-Midi-Narbonne Canal, as well as many other places where we were solicited.

While on board of the two ships we met some of the brave men who have embraced this daring profession. They are called Constantin Amariuta, Dumitru Hiltine, Mircea Rotaru,

Dumitru Călin, Constantin Flămin, Dumitru Bălușcu, Petru Lazăr, Constantin Dorobantu, Constantin Zaharia. I shall stop here because all in all, they are 40 and I must confess that it is hard to simply call them divers.

Because this term means only a shallow definition. First of all they are performers (and if I were to add sportsmen, everyone will agree to it) perfectly trained at the "school" of engineer Petre Aron, from the hydro-power centre in Constanta, in order to succeed, as I was saying, in reaching the depth of 300 m. Moreover, they are specialists because the training lasts no less than three years. Quite often, they specialize in another job as well: they are locksmiths, mounters, welders, underwater shotmen blowing up rocks or eliminating wrecks

standing in the way of ships and, last but not least, they are sailors.

They have complex technical means such as self-propelled mini-submersibles with five axes and two nacelles for two or three persons.

They are also inventors because each underwater installation is a special, particular case requiring an original solution. That is how they produced the "mole", out of necessity, as an original, self-propelled tool designed to underseas pipes without clearance, or the clearing installation with a capacity of 23 cm which is to be used this summer for clearing the gyres of Tulcea's shipyard. Necessity also imposed the creation of underwater welding technologies, hydropneumatic devices meant to hold very heavy objects from the sea bottom and so on...

### A PROFESSION FOR TWO

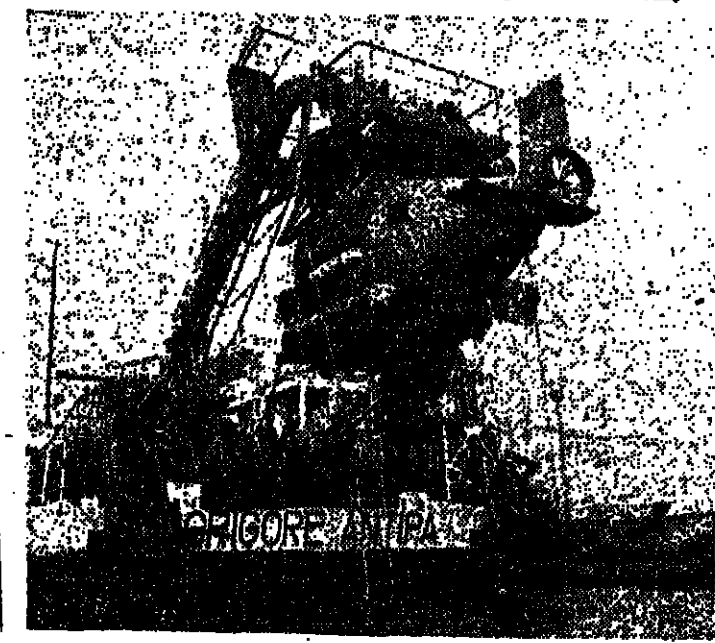
And all these things do not happen in a vast and illuminated hall; people work on the bottom of the sea, suspended by the "umbilical" cable through which life comes from above: air, warmth, and the team's voice, because unlike other jobs, diving has to be performed by pairs. It can only be

practised by teams of at least two people. At the other end of the tube there always has to be someone to understand, be it only from the heavy blast of one's breath or from the rattled signal of pulling the cable by which the two workers are tied for the sake of their lives.

I have spoken about "air" and surely enough a correction must be made here. Indeed, divers do not receive just air through the tube but a breathable mixture of helium and oxygen or of nitrogen and oxygen, in direct proportion with the depth to be reached. Something else should be added: with every 10 m in depth pressure grows by one kg per sq. cm. of human body.

This profession presents another peculiarity which has to be revealed: after completing the mission you have been assigned, you can hardly share the joy of your success with your comrades because you have to be isolated for three or four hours, sometimes even for days, on end, depending on how long you stayed underwater. You learnt this from doctor George Ticheanu and Mircea Manea, two of the most passionate specialists working in this field of medicine here, with us.

When you see again the daylight, let us admit that wildly some of the initial enthusiasm and euphoria has already faded away.



### UNDERWATER SERVICE

"This is just one aspect of the work carried out by the team of the Underwater Exploration, Interventions and Works Unit", stressed Mihai Paduraru, its head, an old wolf boasting a rich experience also in underwater diving.

"Equipped with two specialized ships called Grigore Antipa and Emil Racovita which technically can vie with the famous Calypso our unit makes a qualified contribution to the national programme of research into and capitalization on resources existing in the Romanian Black Sea continental shelf. The unit has frogmen and other workers specializing in interventions going as low as 300 m."

"In other words, an underwater service system?"

"Right. We can perform mechanical works for the maintenance and control of underwa-

ter structures: extraction and drilling rigs, pipes, etc. We also mount and take to pieces floating cranes and rods, we perform underwater cutting, welding waterproofing works also in hydro-melioration systems canals, hydrotechnical works on dams and port quays.

Another important facet of our activity regards our interventions on Romanian or foreign ships.

I am referring to reparations of the rigging system (the ship's rudder), the control of the ship's propellers and bulb, the cleaning of shells from exterior walls or other works which are obligatory for the attestation of ships in the Shipping Register, in which we use underwater cameras, thus saving time and efforts wasted on raising the ship on the dock. We have carried out such works on ships



### NOVELTY

Recently, two women have joined the ranks of the unit. They are the first women divers in Romania to receive a license to practice this job. Mariana Oprea is a 35-year-old engineer specializing in the technology of welding, who graduated from the Traian Vuia Polytechnic Institute of Timisoara, while Luminita Camburn, 30, is an electronics engineer who graduated from the Polytechnic Institute in Bucharest. Both of them are married and have children. The first licensed women divers in Romania.

Speaking about the nature of this profession, "It is not the scope is extremely beautiful, enchanting, you, charming you, you feel as free and light, but it is impossible to bluff", Mariana Oprea did not avoid mentioning the rigorous and difficult inherent in such an occupation. "Imagine one working underwater when beside the temperature is at

minus 8°C and his equipment weighs some 30 kg." However, women can overcome these rigours and difficulties.

Going thousands of years back in time, diving has become a profession on the border between technology and sports, a beautiful and spectacular profession, practiced by skilful and courageous people who managed to cover a large sphere of economic and social life.

C. IMAILEANU  
Photo: M. GHEORGHE

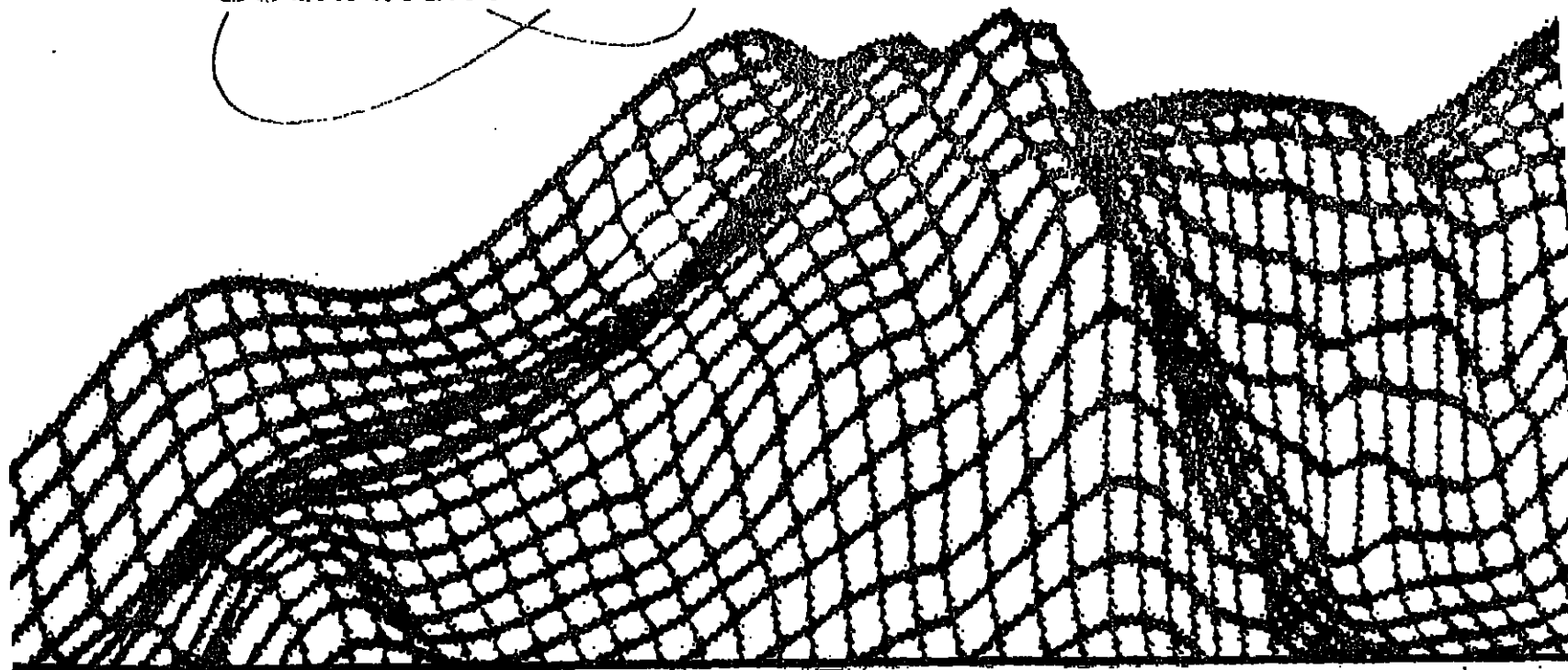
In these difficult, but very interesting, conditions, the women divers have managed to overcome the physical and psychological challenges, proving that they are capable of performing the same tasks as their male colleagues.

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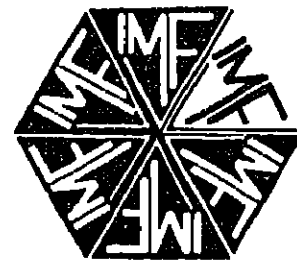
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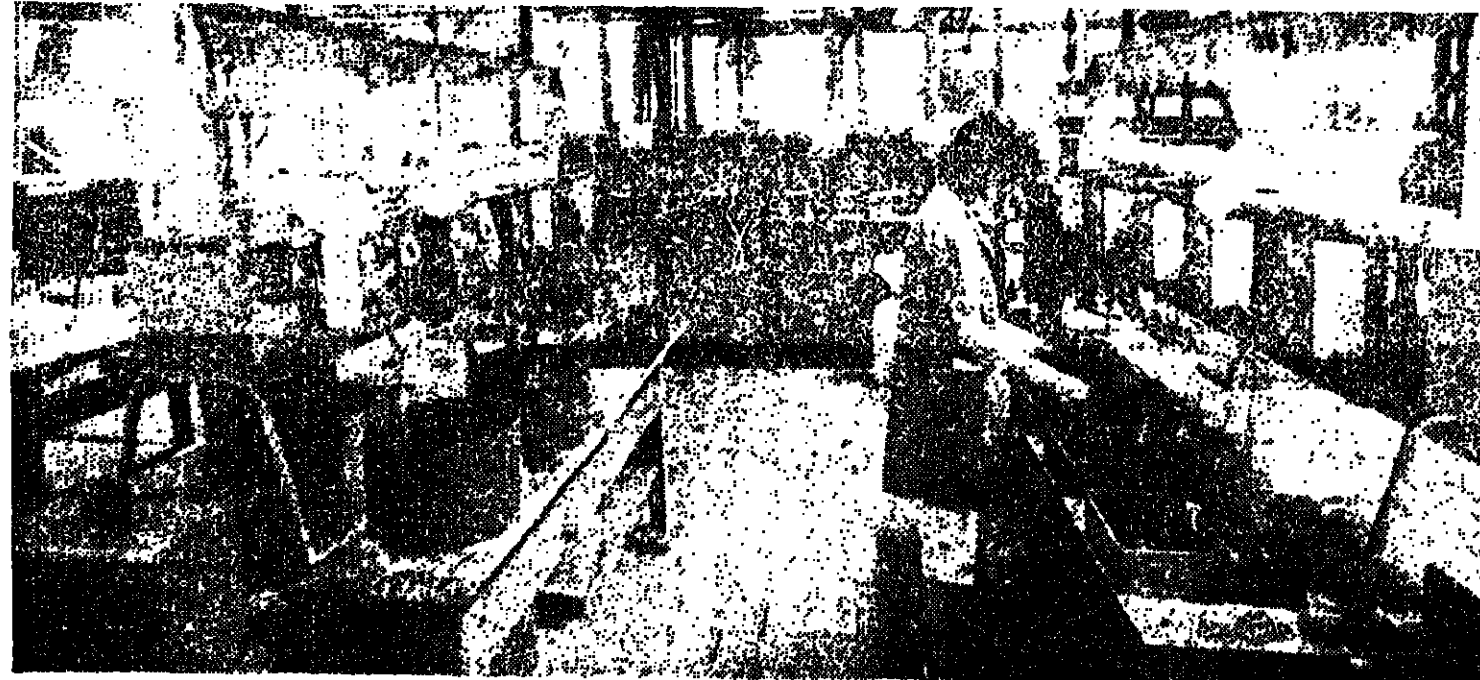


# THE FINE MECHANICS ENTERPRISE



The Fine Mechanics Enterprise of Bucharest, one of the big producers of measuring and gauging fixtures in Romania, offers high-accuracy devices for the measuring of external, internal, circular and flat dimensions, gear, surfaces and angles. Its manufacturing programme includes dial gauges and micrometer calipers with dial indicator, direct-reading and comparison measures

for bore-holes, passmeters and level micrometers, thickness measuring devices, gear pitch error and thickness measuring fixtures, protractors and supports and accessories for these devices. Length measuring devices meet world quality standards and can compete with similar products made by traditional firms.



ensure dimension accuracy, economy of time, giving automatic orders according to the programme.

The vocation for top performance in the twelve enterprises of the CIMEF is solidly grounded on the activity of its own Institute of research, design and technological engineering for fine mechanics and tools. A real centre of technical and technological creation, the institute supplies ideas and solutions to productive departments staffed with highly skilled workers and technicians able to impart the highest quality to each product. The direct relationship between research and production, the continuous flow of information between those who design and those who execute provide the guarantee for the high technical level and accuracy of the measuring and control devices produced by the CIMEF enterprises.

## MEASURING AND CONTROL INSTRUMENTS

### MEASURING AND DIMENSIONAL CONTROL INSTRUMENTS

- dial indicators
- bore checking and control instruments
- comparator instruments
- gear measuring instruments
- angle measuring instruments and apparatus
- surface measuring instruments
- supports and accessories for measuring instruments

### APPARATUS FOR ACTIVE AND PASSIVE CONTROL BASED ON MODERN PRINCIPLES

- active control instruments for universal and surface grinding machines
- passive control instruments with electric contact and pneumatic transducers
- electronic apparatus for rigidity control

The range of products includes 536 distinct families totaling some 22,000 standard sizes. Of them, 90 families of products have been assimilated of late, the share of the new and redesigned products being of over 20 per cent.

In order to achieve its programme, the Fine Mechanics Enterprise adopted and improved the latest technologies specific to each family of products. One of the many possible examples are the diamond wheels with galvanic bond for processing a wide range of materials. Starting from the technology bought from the Winter company of West Germany, the Fine Mechanics Enterprise has achieved, almost twice as many families of diamond wheels than the license initially contained. Among its performances we could mention the wheels for the electronic industry used for cutting integrated circuits, transistors and thyristor plates. The width of the cut is only 0.24 mm, which substantially reduces the waste of expensive materials resulting from cutting. We could also mention the diamond wheels with galvanic bond used for outting synthetic resins, the wheels for processing sintered metal carbides, etc.

The fruit of the Fine Mechanics Industrial Control's creative efforts is the active control devices used directly on machine tools. Intelligent devices equipped with electronic blocs and feelers, they



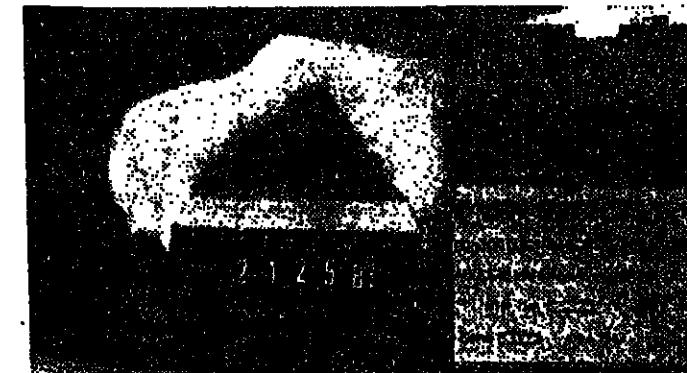
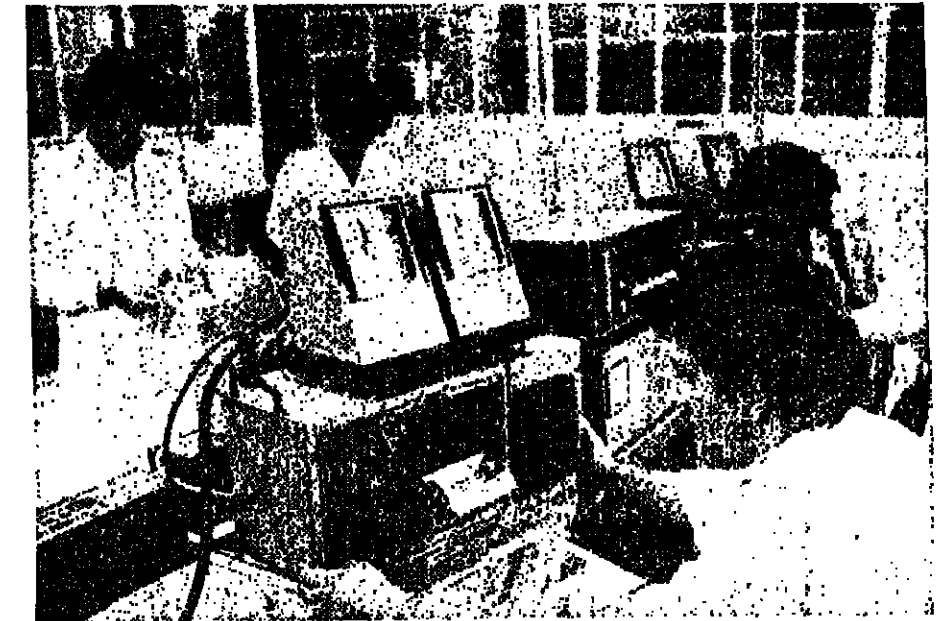
# REMEMBER THE IMF TRADEMARK



IMF is the mark you can see on all products turned out by Intreprinderea de Mecanică Fină (The Fine Mechanics Enterprise) in Bucharest. The fabrication programme of this enterprise which is one of the most modern in Europe includes the following groups of products:

• apparatus and mechanisms of industrial horology • apparatus for the control of thermotechnical magnitudes • automation elements for regulating pressure and temperature • tools, devices and matrices • products of sintered metal carbides.

Superior accuracy parameters, high technical standard and complexity, a wide range of applicability, endurance, highly efficient constructional elements — these are some of the features boasted by the dimensional control and measuring instruments and apparatus and of the tools bearing the IMF mark. Do not forget: they impart superior functionality, maximum safety of operation, great productivity to your machinery and installations, and a high quality to your products.



## HAND TOOLS, DEVICES AND MATRICES

### DIAMOND TOOLS

- diamond tools monocrystalline and polycrystalline
- diamond tools for processing grinding stones
- diamond wheels with metal and organic bonds for processing hard and extra-hard materials
- metal-bonded diamond tools for special processing
- diamond drawing dies
- diamond pastes



### ON THIS PAGE:

- vertical micrometer with electronic counter
- electronic speedographs for locomotives
- impulse electronic counter for counting machines
- projector microscope checks

### ON THE ADJOINING PAGE:

- View from the galvanic workshop of the diamond tools section
- View from the length measuring and control apparatus section



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# ELECTRONUM YOUR SAFEST BUSINESS PARTNER

Marketing Romanian electronic products and services as well as economic cooperation in the field of the electronic industry are carried out by the ELECTRONUM foreign trade enterprise.

ICE ELECTRONUM'S export programme includes the following lines of products:

— Telecommunication apparatuses and equipment, servicing included, starting from design up to training and maintenance. From this line of products mention should be made of: telephones, urban, interurban, international and institutional automated telephone exchanges. Exports of such products to Greece, the USSR, Czechoslovakia and the GDR have become a traditional practice.

— Measuring and control apparatuses, of which ampermetres, voltmeters, wattmeters, electric metres, flow-metres, steam-flow metres, logometres are delivered to Poland, Syria, Iraq, Pakistan, Sudan, the GDR and Czechoslovakia.

— Automation elements, equipment and installations for all the economic and social sectors.

We shall enumerate some subgroups of products: field and panel automation equipment, distribution and control electrical equipment, automated equipment and systems controlling technological processes in all economic branches, transmission and data processing equip-

ment, teletransmission and data processing equipment, machine tools, control equipment, automated testing equipment.

Also on offer are personal installations and equipment as well as turn-key deliveries. Increasing are the deliveries to countries such as the USSR, Egypt, the GDR, Czechoslovakia, Iraq, Bulgaria.

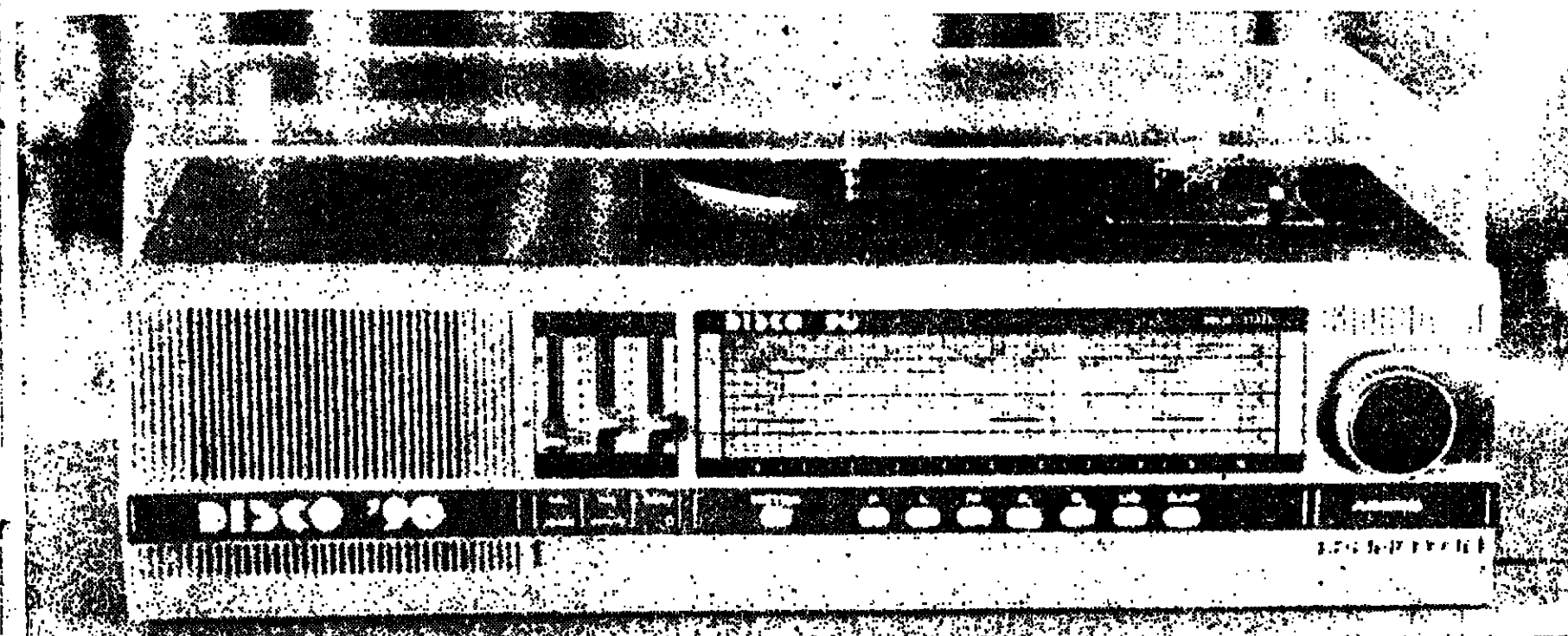
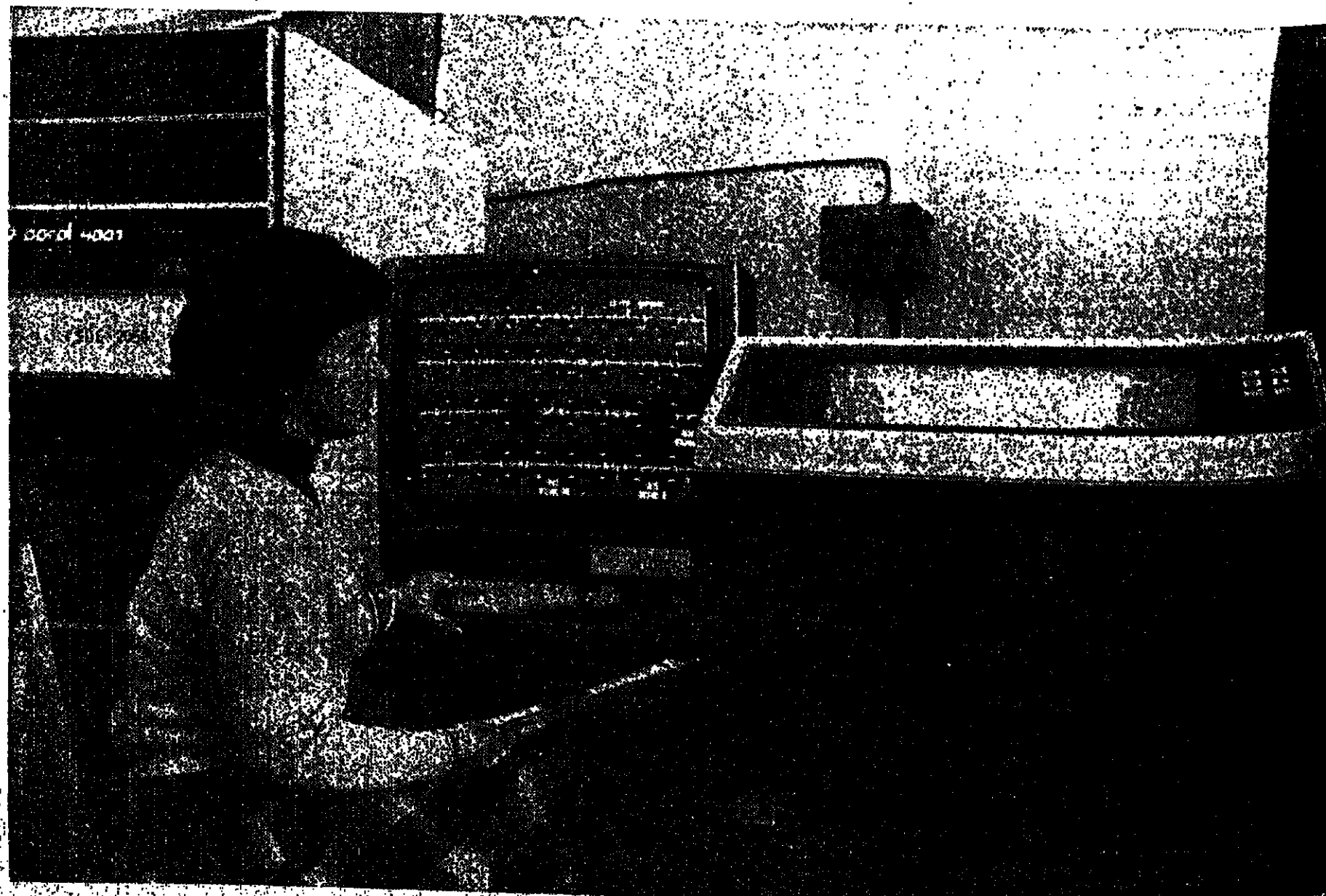
— Computer technology equipment such as: medium-capacity computers, minicomputers, microcomputers, personal computers, graphical systems, invoicing and bookkeeping machines, peripheral equipment. These products are exported to People's China, Czechoslovakia, the USSR, the GDR, Switzerland, Austria, West Germany, the USA.

The electronic components cover a wide range of diodes, transistors, integrated circuits, resistors, condensers, etc and are exported to Bulgaria, Czechoslovakia, the GDR, Poland, France, Italy, the United States etc.

Consumer goods such as radio receivers, radio cassette recorders and tv sets. These products are exported to countries such as West Germany, Britain, the Netherlands, Czechoslovakia, the GDR, the United States.

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ICE ELECTRONUM imports a series of equipment, apparatuses, electronic components and various materials for the electronic industry and audio-video consumer goods. An important partner in the export and import conducted by ICE ELECTRONUM is the Soviet Union.

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ENERGOMASHEXPORT, V/O TEHNOINTORG, V/O Supplied to the USSR are adjustable drives for machine tools, automatic telephone exchanges, computer technology, while that country exports to Romania electronic components, technological equip-

ment for the electronic industry, computer technology and audio-video consumer goods.

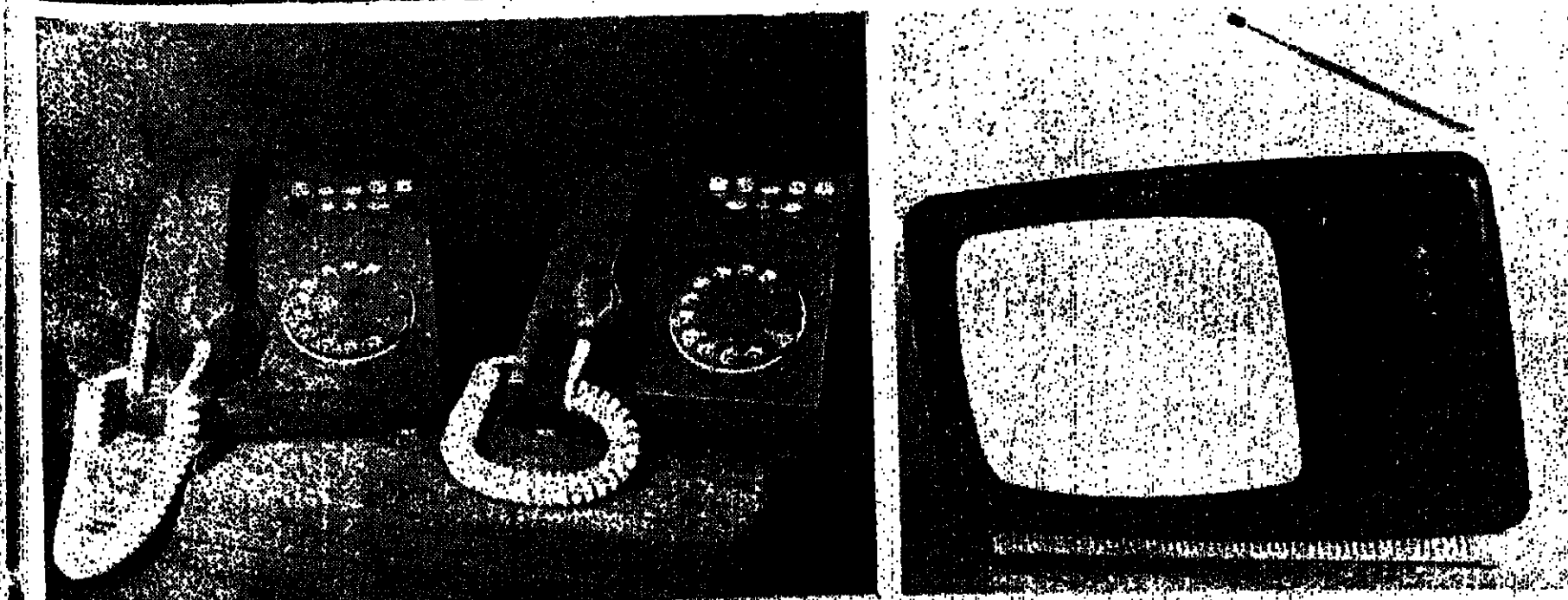
The collaboration with the Soviet foreign trade enterprises also accounts for the cooperation in production, that is Soviet electronic components are used in manufacturing electrical drives, computer technology equipment and automated telephone exchanges to be delivered to the USSR. At the same time very important is the ob-

servance of all delivery dates, especially as concerns the electronic components which are vital to the rhythmic realization of the equipment production plan.

According to annual mutual exchange protocol stipulations, the volume of the exchanges between ELECTRONUM and the Soviet foreign trade enterprises is set to grow every year.

For further information please contact our specialists.

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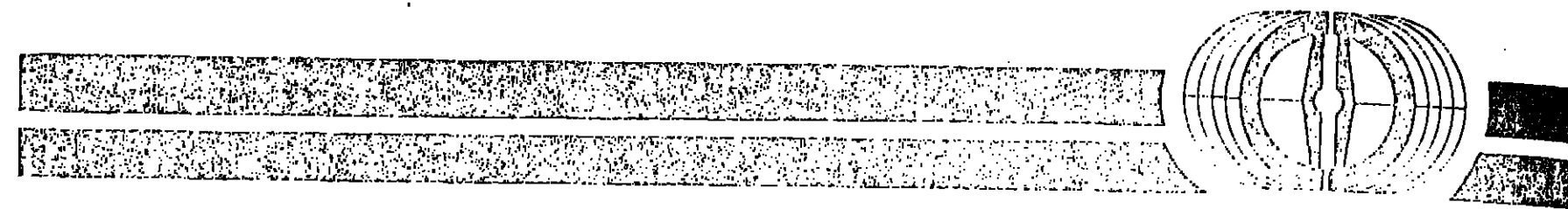


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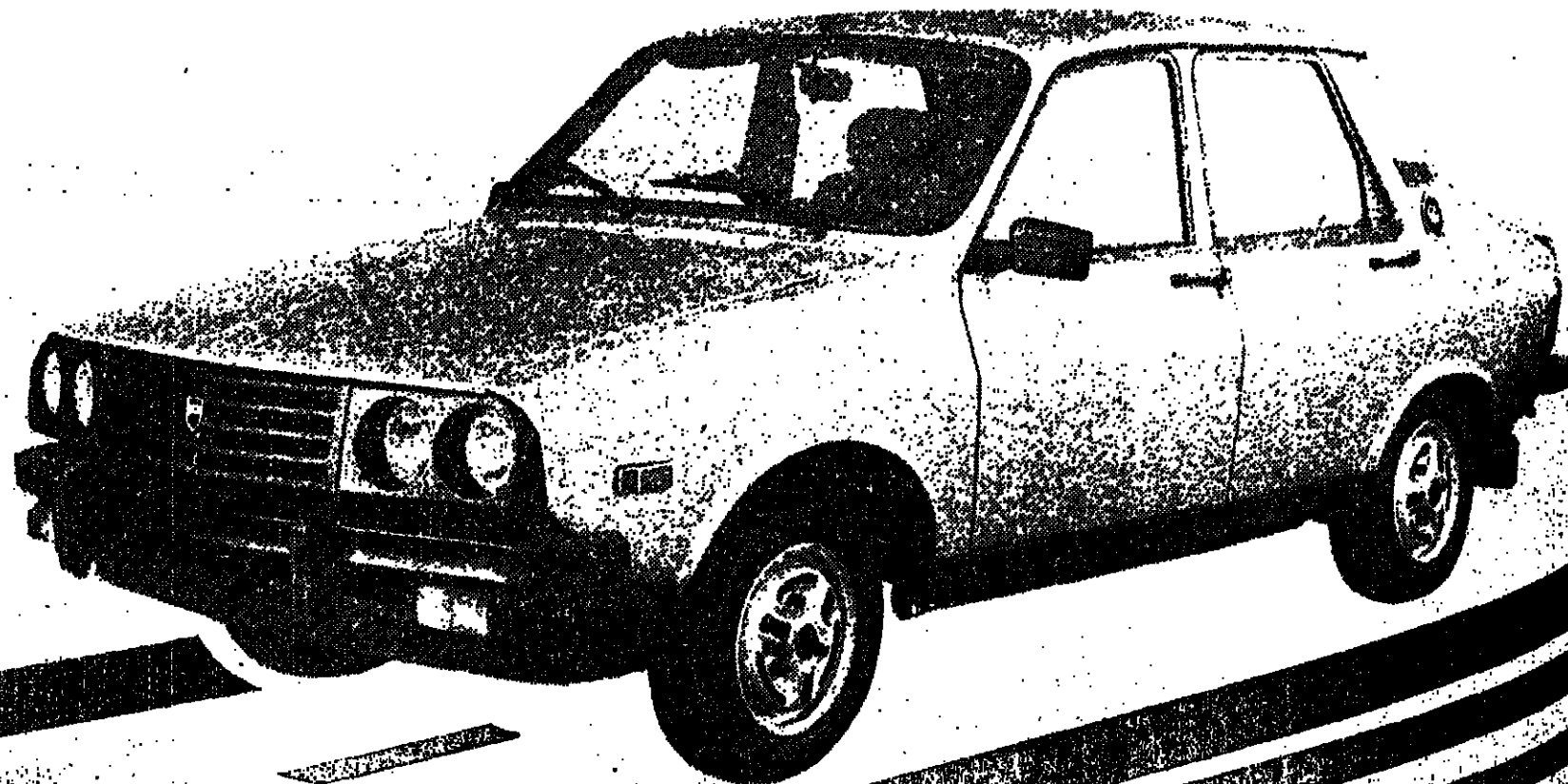
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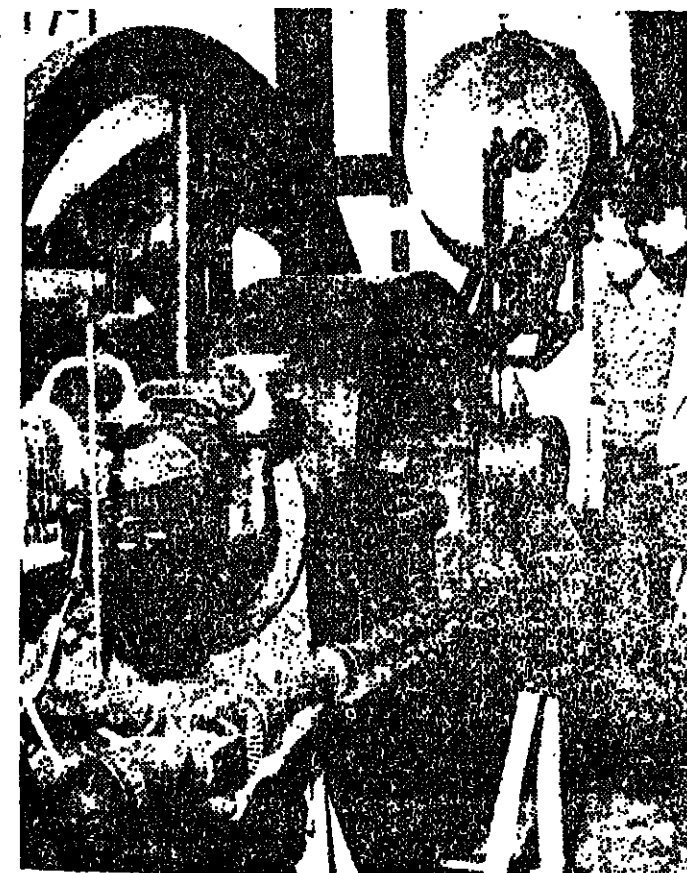


## THE TIME TUNNEL

Let us review the scientific and technical events marked by the year 1938. Let us stop in this "balance sheet of Romanian scientific-technical traditions" over those which took place 100, 150 and 20 years ago.

Let us start with the year 1838, in the big mining centre of Zlatina (Alba county) and focus on a technical event: the installation of the first steam engine of 13 hp in Transylvania. The same year, documents mention a steam engine in Bucharest for wood drying in a timber factory. In the technical field too, the 19th century was rightfully called, by the Romanian scholars of the time, the "century of progress".

Let us also mention several facts marking the industrial and agricultural progress: at Bucharest Slaughterhouse was installed in 1898 the first electric-communal works in the country's Capital, supplying electric current for 180 light bulbs. That was also the year when the first two building furnaces with double smoking hearth started functioning in Reşita. For the continuous progress of agrotechnics the Romanian Revision for Agriculture was founded, meant to promote mechanization and advanced methods. The first Romanian group of aerostation (for air navigation with apparatuses lighter than the air



perity". There was also a premiere in the domain of books, signalled by the historians of Romanian medicine: scholar and physician Vasile Popa issued in 1838 the first Romanian scientific bibliography on "Romanian printing houses in Transylvania and the neighbouring countries" (he had also published in 1851 the first work elaborated by a Romanian physician in the Romanian language).

One hundred years ago, in 1938, the railroad network in Romania, a real cardiovascular system through which the country's economic life flowed, reached 2,188 km. A few years later, the Romanian railroads were no longer built by foreign firms (which cheated us, by considering the cost per km and the before introducing useless detours) but by Romanian engineers (starting with the memorable Buzăi-Mărăşeşti railway built according to eng. Dimitrie Frunza's instructions). An important event in the field of constructions: the great engineer Anghel Saligny finished in 1898, in the port of Brăila the first reinforced-concrete silos in the world: the silos were made of hexagonal plates made in the workshop and used welded reinforcements. The same year, eng. I. Ch. Cantacuzino founded in Brăila the first systematic Portland type cement factory in Romania marking the beginning of the national cement industry.

Medicine also registered important events consigned in international scientific terms. Indeed in 1889 the great "microbe hunter" Victor Babes discovered in collaboration with C. Sîrbulescu the group of endoparasitic parasites called "helminths" after him, of great importance for the veterinarian medicine. 100 years ago, Victor Babes also elaborated and applied the Romanian method of antihelminthic vaccination, an improvement of Pasteur's classical method, the only one efficient in the case of surrus bilis, the infection of the head, for example.

It is also the year of an interesting Romanian invention of international renown — the "gold flake" — gold from "water": its inventor was engineer — explorer Tulu Popov.

discovered including war balloons). It was also the period when a series of Romanian inventors carried out their creation work in the field of dirigibles.

In 1938, fifty years ago, the balance sheet was again very rich. Here are just three examples: mining engineer Grigore Ioschim succeeded in reaching great depths by introducing, for the first time, the pumping method combined with artificial eruption in the oil industry; various aspects of nuclear spectroscopy are presented for the first time in the monograph Spectroscopy by physicist-engineer Radu Tilea. Another top achievement of 1938 the putting out of Stefan Odobleja's work Psychologie consonantiste formulating fundamental laws and principles of the discipline later called, cybernetics, inaugurating a new way of the contemporary science's development.

I.M. STEFAN



## PERPETUAL ACCUMULATOR?

A well-known principle of thermodynamics — the second — says that a machine cannot do mechanical work only if it has two sources of heat, one hot and one less hot. A turbine's blades, a naturally turned by flowing water, if the turbine's blades turned in the stagnant waters of a lake, a perpetual mobile would be obtained that is, a machinery operating with one source of heat. This would be absolutely impossible, say the physicists who as early as last century proclaimed the second principle of thermodynamics as one of the great, absolutely unassailable truths of science.

However, at the Dimitrie Leonida Technology Museum in Bucharest, there is a small apparatus which proves a tough nut to crack for thousands. I am referring to an accumulator. In fact two accumulators arranged in series connected to a small motor which they cause to turn. Each accumulator is made of a perfectly non-pollable glass tube in which, in a sulphuric acid medium, there are two electrodes: the cathode is made of platinum and the anode of two gold tapes.

Apparently the accumulator behaves like any electric cell: it generates electric current, as proved by the fact that the electric micrometer's rotor moves continuously. I said apparently because things are more intricate with this cell.

Because the accumulator I am writing about has been in operation, without interruption, since 1923! Does it sound incredible? Maybe, but I assure you, that is the pure truth.

The accumulator — and the whole system — was the brainchild of a great Romanian physicist who lived in the first half of the 20th century, professor Nicolae Vasilescu-Karpen. The professor enjoyed great prestige in his time, being especially famous for his experiments which confirmed the validity of the second principle of thermodynamics. He was often invited to the meetings of one of the leading scientific forums of the time, the French Academy, where he was respected by everybody.

But at one of the meetings of 1923, professor Nicolae Vasilescu-Karpen introduced his apparatus, an accumulator which he explained, that it was a cell of unconventional concentration: and he assured everyone that the sulphuric acid medium would never get consumed, while the electrodes would never corrode.

The Romanian professor immediately lost his respectability: his apparatus defied the second principle of thermodynamics, supplying energy without using the two sources of heat! The argument that the accumulators had been operating for some time and did not seem to have been discharged in the least earned him the audience's sarcastic reply: "Can you at least drive an elevator with the few watts developed by your crazy invention? You can't!"

Indeed he could not. He had not built a device for public utility. The time was not ripe for such a thing. But his concentration cell meant much more than that: it was a window opened for the first time on a still unknown domain of physics.

Then, the Romanian physicist Nicolae Vasilescu-Karpen died, a retired professor of the Bucharest University. He had fought for his cells for some time but he had felt he was swimming against the tide. He had devised a theory on those cells, then had given it up. He

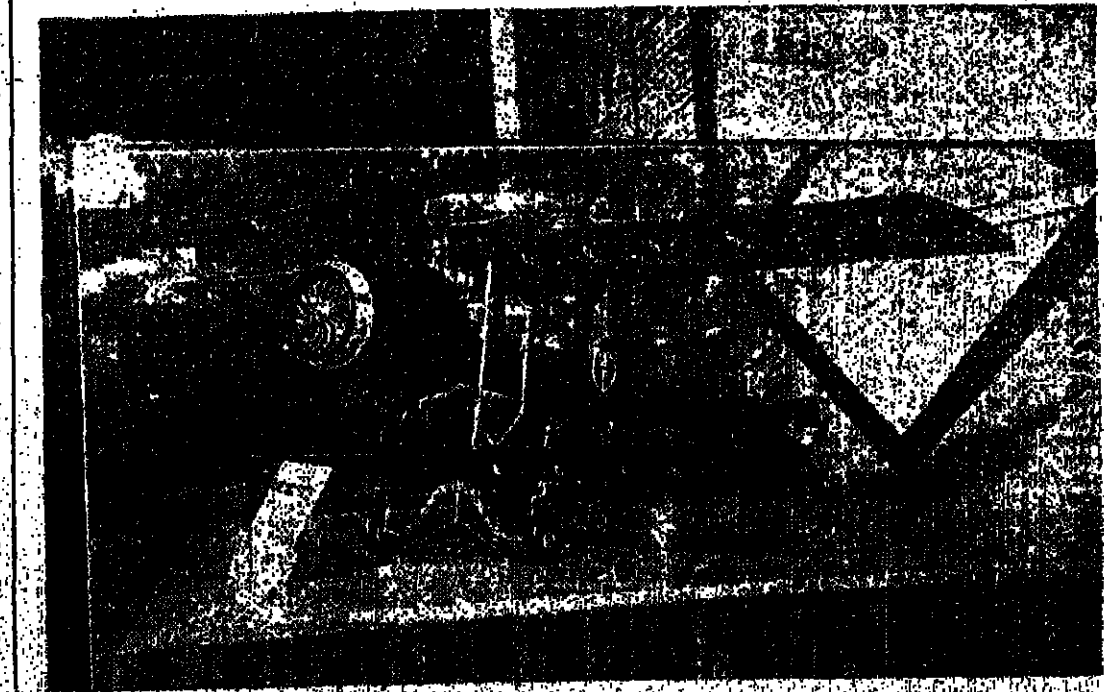
had realised that the 20th century had left a fact which it is by no means easy to understand. "We have thought" — he wrote to the Scientific Bulletin of the Romanian Academy in 1913 — "of creating a new cell, which, by generating electric current, would not consume the anode, and would not corrode the cathode, heat in motion in electric energy, as happens in all conventional cells. The cell, called K cell, was not based on any unusual physical law, they fall within the framework of the phenomena occurring between two different conductive media. What is going on in the cell? The oxygen in the air dissolved in the electrolyte is reduced by the anode, which is made of the electrodes. In a larger measure by the platinum coating of the cathode (the positive electrode) than by the 2-3 surface of the anode (negative). Which means less oxygen on the cathode. Their slackening leads to the creation of a current against the electrochemical flow (the compensated diffusion phenomenon) due to the absorption of heat from the immediately surrounding environment. In the electrodes, the oxygen ions take the reverse way, leaving concentrations. Contact is covered: oxygen is again accumulated on the cathode platinum more than on the anode gold and the process is repeated over and over again, at every closing and opening of the circuit."

Minute tests have shown that K cells are fully reversible: no chemical reaction, no change, the electrolyte, energies from the surrounding environment, from outside the cell will be "persuaded" by the system developed by physicist N. Vasilescu-Karpen to make their contribution. "The energy generated by any of the K cells at the expense of the environment's heat can gain momentum, in time", the professor concludes.

The apparatus has been working for more than half a century. Throughout, the mechanical work done by the small motor has been infinitesimal, while the electrodes and the electrolyte have not suffered any chemical modification. And it is very likely that in a century or millennium, the Vasilescu-Karpen cell will work just like now.

ALEXANDRU MIRONOV B

The photos on this page show aspects from the Bucharest Museum of Technology: An accumulator powering a small motor, could power a machine, but this "Vasilescu-Karpen cell" has been operating uninterruptedly without any power input from outside since 1923. A three meter diameter from the mid-19th century which is still in good repair (right) and the model of the "gold flake" (left) elaborated by engineer Tulu Popov.





## THE LIFE OF A FOUNDER

Following George Asachi, now when we celebrate 200 years since his birth (1788-1889) is not easy. That would mean:

— to stop at Ierla, a locality in Bucovina where he was born, into a learned family;

— to look for him in the documents of Lemberg college (L'viv) and of the Faculty of Philosophy (letters and science) where he attended a special engineering course (1798-1805) and where he learned Latin, German and Polish (later on he would learn Italian, French, Russian and English);

— to find him in Vienna, between 1805-1808, continuing his studies, attending courses of astronomy and mathematics, but also learning painting;

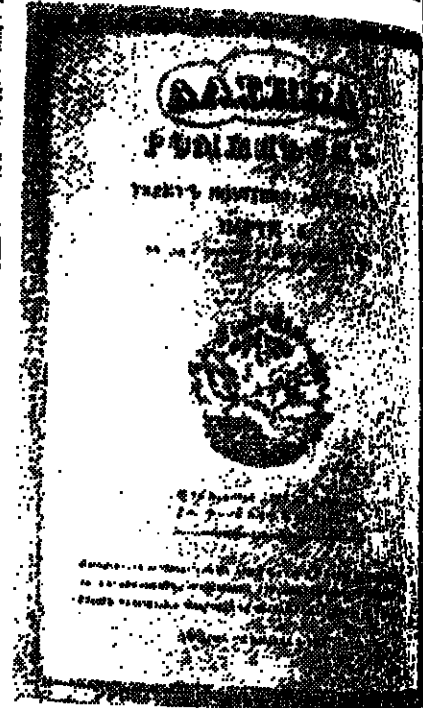
— to accompany him to Italy, Rome, between 1808-1812, thoroughly studying the classical and neoclassical cultures, especially the Italian one, perfecting his humanistic training; there he also studied archaeology and fine arts and became, through his poems written in Italian, a member of the Italian Literary Society (travels to Venice, Naples, Padua, Florence, Siena, Bologna, etc.);

— to find him, later on, travelling to great European centers like Petersburg, London, Paris and again Vienna and Lemberg (where he found the manuscripts of humanist Ioan Budai-Deleanu, among which the famous "Tighele"); the Gypsy Epics where he had several cultural-diplomatic missions; — but especially, to evoke the complex contribution of this young scholar, multifacetedly trained in the fields of science and art, in the domain of Romanian culture, after his return to Iasi, in Moldavia, in 1812.

For almost half a century, Asachi was the source of cultural accomplishments which we can rightfully call epoch making. It is incredible how this man spent so much energy and patriotism

and reorganized schools throughout the country, equipped them with adequate curricula, courses and teachers. In 1835 Academia Mihaleasa was created, in 1835 the Philharmonic-Drama Conservatory, in 1841 — a School of Trades and Crafts, etc. all through the care of the same Asachi.

Then, he means of the publication he was putting out — *Albina românească* — he propagated an Enlightenment type culture, being helped by the *Albina românească* supplement, publishing original literature, translations, articles with historical and economic topics. A tireless mind, he did not hesitate to create other periodicals like *Gazeta de Moldavia*, *Patrua* and *Fora* (satirical, popularization magazines or the famous yearbook which efficiently spread culture among the masses. It was without saying that in the pages of these publications, Journalist Asachi was very active writing, supporting the development of Romanian literature and art. To all these actions of initiator and promoter of the national culture was added the creation of a "book industry" made of paper factories, publishing and printing houses, and many others. Despite his national activity (which became short-sightedness in the case of the 1818-19 Revolution and of the Union between Valachia and Moldavia in 1859), Asachi played a role of great importance through his activity as a writer, too, in the field of culture in the first half of the 19th century. Being a poet, adapted to the needs of classical antiquity, he remained in literature a sort of late classic, but with romantic account. In poetry (epics, elegies, fables, satires, legends) — evoking the historical past, conveys — he is



## ROMANIAN CULTURE ABROAD

**WEST BERLIN.** The work Medun 11-Cogito, by Romanian composer Ioan Dumitrescu, recorded in West Berlin was well received in the world. Thus in the US, Japan, the Netherlands and Spain a series of favorable articles were issued by the specialized press, while Franco Music and *Ostereich* radio-broadcasts put on air ample selections of this music.

**VENEZUELA.** In Caracas, the National Film Archives host a cultural-artistic event presenting a programme of Romanian folk and classical music and the movie *Vlad Tepes*.

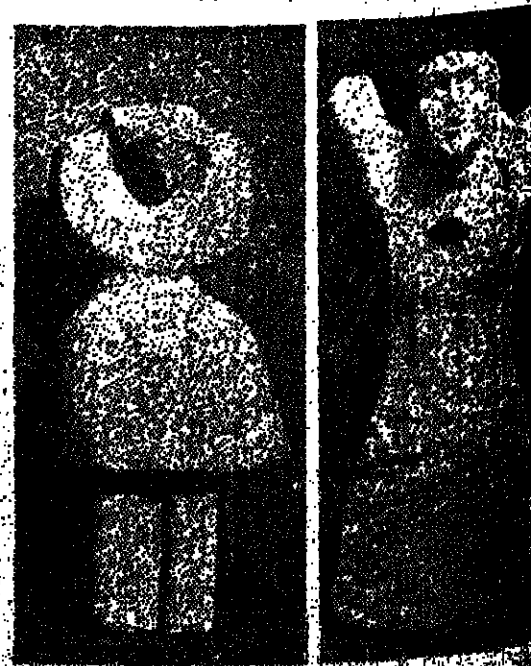
**AUSTRIA.** The young conductor Ion Marin, benefiting by a Herder scholarship in Vienna's, at present, Claudio Abbado's assistant, at the Vienna State Opera. The special talent of the Romanian musician determined Abbado to entrust him with the baton at the performance of

## THE 51st GALA

In the eight years since their inception, the Galas of Young Concert Solosists have seen more than 50 editions. During this interval, the most valuable elements have been selected from among students and recent graduates of the conservatories, but also from among the pupils of art high schools in this country, who have been given the opportunity to distinguish themselves on the concert podiums of the important theatres in Arad, Timisoara, Craiova, Ploesti, Constanta, Braila, Cluj-Napoca, Targu Mures, Satu Mare, Bacau, as well as in Bucharest with the Radio-Symphony Orchestra.

The 51st edition of these galas was recently staged in Braila, a city with a very intense musical life, especially thanks to the event offered by the G. Dimu Philharmonic. It was the same Philharmonic, under its principal conductor, Harion Gheorghe, that provided excellent accompaniment on the three evenings of this gala which featured 11 soloists: three pianists, four vocalists, an abbot, a cellist, a double bass player and a singer.

Two soloists, both on the piano, deserve special mention: Sorin Dogaru from Timisoara, a graduate of the Bucharest Conservatory, and Constanza No. 1 in E flat major as a full-fledged pianist, with fine soloistic resources, clarity of virtuosity and irresistible vitality, while in the Concerto No. 3 in C minor by Beethoven, Raluca Sibila, an eighth-form pupil of the Octav Bancila high school in Iasi, enthusiastically, flowing warmly into people's souls or being interwoven with shades and hues, penetrating clearly and diffusely the soft tones of the canvases.



VLADIMIR UDRESCU

## A PRIZE AT TOMAR

The film *Unde esti, copilario?* (Where Are You, Childhood?) by Elisabeta Bostan, which opened in Romania only a few months ago, has recently been awarded an important prize at Tomar, Portugal, where an international festival of children and youth films takes place every year. The Romanian picture claimed the Prize of the Portuguese Cinema and Radio Secretariat, which is the 10th award won by this director in her career (after those in Tonia, Cannes, Oberhausen, Téhéran, Mar del Plata etc.).



As we informed you some time ago, Elisabeta Bostan's work is based on a screenplay by Vasile Ispirescu and revolves around a character named Nelu, a young boy who, through the magic of childhood, the work was given the Portuguese award for its "remarkable quality, reflecting a profound understanding and love of children, while being a lesson to childhood lived freely in the midst of nature". The prize won by Elisabeta Bostan's picture *Unde esti, copilario?* confirms the value of Romanian filmmakers.

TRAIAN ROMAN

## THE CLUJ-NAPOCA OPERA IN BUCHAREST

Cluj-Napoca, the cultural, artistic and scientific center of Transylvania, boasts a rich tradition in cultivating the musical theatre genre, opera and ballet. Founded in 1920, the Romanian Opera was a genuine springboard for numerous Romanian singers who later became leading members of the Romanian Opera in Bucharest, while some of them even joined the international elite of vocal artists. It is easy to understand, therefore, the interest with which the Bucharest public hailed the Cluj-Napoca company's tour, billing three shows that are not in the current repertoire of the Romanian Opera in the Capital.

The first show, the opera *Lo maschera* by Pietro Mascagni, is the fruit of the collaboration initiated nearly 15 years ago between the Romanian Opera in Cluj-Napoca and the Italian Committee in Lughorn, the native town of the well-known Italian composer of operas, among which the popular *Cavalleria rusticana*, *Il trovatore*, this interval, the Cluj-Napoca artists have toured Mascagni's operas *Cavalleria rusticana* and *Il trovatore* to Italy several times, also offering concerts of orchestral fragments, choruses and arias from various operas by the Lughorn composer, who in 1927 had graced the Transylvanian city with his

and lyric comedy marked the debut in operatic education of two personalities enjoying unanimous prestige in the Romanian theatrical and musical life: stage director Ilia Ciurcu, a fine connoisseur of Shakespeare's work, and conductor Cristian Mandea, reputed mainly for his highly expressive renditions of late Romantic creations. For this show too, the deans were designed by George Cojocari who confined himself to visual suggestions of extreme subtlety, using mainly the effects of light.

Finally, the third show demonstrated the Cluj ensemble's virtues in another realm, that of choreography, through the performance for the Bucharest audience of a



## PREPRINTS

The Eminescu Publishing House in Bucharest has recently put out in its Bibliotheca Eminescu series the first volume of Constantin Bacalbasa's memoirs, *Bucuresti de altadata* (Old-Time Bucharest). The author (1856-1923) was a journalist personality, a man with a true vocation and firm opinions who made his presence felt in his time by contributing to such publications as *Lupta* and *Adevarul*, but also to *Telegraful*, *Epoca*, *Dimineața*, *Universul*. But to posterity he is primarily known for a book of evocations full of color and warmth (and sometimes of pathos), entitled *Old-Time Bucharest*, which was printed in four volumes over 1927-1932. A book of memories based on his journalistic activity but also on the consultation of a large stock of documents, newspapers, magazines and special books, a massive work, replete with information, attesting to the revival of a world of nearly one century ago. The supervisors of the current edition are Arista and Tiberiu Avramescu, authors of a well-documented preface, a tremendous number

performed, conducting a performance of *Cavalleria rusticana* and a symphony concert. The opera *Lo maschera* now sung in the Romanian capital is a true stage treatment of that Renaissance theatrical form known as *Commedia dell'arte*. Therefore, we encounter in it the well-known masks bearing fixed character types in this genre: Arlecchino, Colombine, Pantalone, Brighella, Captain Spavento etc. The show's cast was another facet of Romanian-Italian collaboration, as it featured six Italian guest singers, alongside three Romanians, while Romanian conductor, Petre Sbarea, Italian stage director Giampaolo Zennaro and Romanian scene painter George Cojocari were in charge of the show's production. The prologue and the three acts of this *commedia lirica* glorified by Mascagni provide an artistic and only through the interpretation of the famous Shakespearean characters by singers from Cluj-Napoca, with baritone Muzar Bogdan in the title part, but especially through the fact that Verdi's brilliant

portrayed in the book. In this first volume, Bacalbasa evokes the atmosphere and events of 1871-1877 in Bucharest life, which he had intimately known for having been born and raised out most of his activity in the city on the Dimbovitza. The present-day reader looks in the memoirs of this prolific journalist and so much for stylistic virtues as for his evocative force, the authenticity of his notations and the individual character of his observations. These traits are visible throughout the book, earning it a distinct place among writings of this genre.

The second show — a production of Falstaff, Verdi's old-age masterpiece — aroused special interest and only through the interpretation of the famous Shakespearean characters by singers from Cluj-Napoca, with baritone Muzar Bogdan in the title part, but especially through the fact that Verdi's brilliant

EDGAR ELIAN

MIHAIL CRATOFIC

## BIRD'S EYE VIEW

**CONSTANTA.** A valuable exhibition entitled *Archaeological and Numismatic Treasures Recently Discovered* has been opened at the National History, Archaeology and Art Museum Complex in Constanta. Some of the most interesting, even sensational, discoveries of the kind of the enthusiastic Romanian archaeologists are exhibited, able to prove once more the Romanian continuity on the territory between the Danube and the Pontus Luxinus, the native continuity in the civilization and culture.

**TRIGU JIU.** A series of restoration works on building of historical artistic and architectural interest will be carried out in Gorj county. That will happen at Turestii loc, where the Carliana house built 150 years ago, a representative monument for the architecture of the area, will be restored. Restorers also have in view the central axle of the Village Museum in Gorj, a museum located



in a picturesque place, at Carliana. At the same time, buildings dating Gorj architectural tradition will be restored in Trigiu Jiu municipality, a town undergoing ample rehabilitation works.

## AN ETHNOGRAPHY MAGAZINE

The latest issue of *Revista de etnografie si folclor* — The Ethnography and Folklore Review — includes a series of studies of broad interest both for specialists and the general public, dealing with various forms of certain objects accompanying folk ceremonies. Gabriel George's article: "Ardele, Elemente in the Romanian Spirituality" presents a series of ethnographic connections, folk customs with folk celebrations found in Yezho texts. In his turn, Anel Olteanu investigates the status of the exorcism magic in the popular mentality ("Romanian Dialectology"). The young Mirela, George's Petrovici, focuses on an old post-modernist work in Zarnaulu County: "The Magic of the Holy Spirit" while "Căpitanul" Capota speaks about "Major's Dance" in Transylvania.

re with the Romanian People has in view including correspondence between the forms engraved in the old carvings and graphic elements also present today in various forms, on certain objects accompanying folk ceremonies. Gabriel George's article: "Ardele, Elemente in the Romanian Spirituality" presents a series of ethnographic connections, folk customs with folk celebrations found in Yezho texts. In his turn, Anel Olteanu investigates the status of the exorcism magic in the popular mentality ("Romanian Dialectology"). The young Mirela, George's Petrovici, focuses on an old post-modernist work in Zarnaulu County: "The Magic of the Holy Spirit" while "Căpitanul" Capota speaks about "Major's Dance" in Transylvania.



## AN EXHIBITION ON THE HISTORY OF PHARMACY

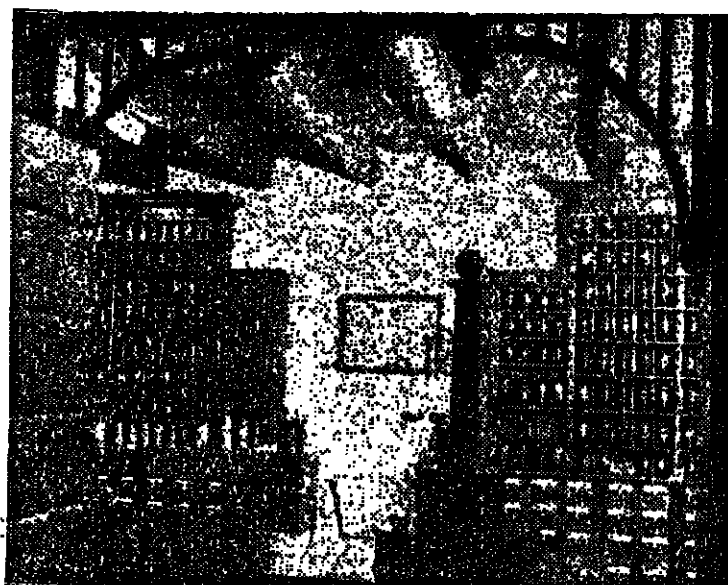
Fifteen years ago, an interesting permanent exhibition illustrating the history of pharmacy was opened in the city of Sibiu, which boasts the oldest, chemist's shop in this country. Housed by a 16th century building, regarded as an historic monument, where the La Uraul Negru (Black Bear) Pharmacy existed for several centuries, the exhibition offers the picture of an apothecary as it may have looked in the 17th-18th centuries. The picture is created by a rich inventory of objects usually found in pharmacies, a pharmacy that was preserved at the local Brukenal Museum or in older collections of the Ministry of Health.

The exhibition is comprised of four rooms displaying some 6,000 exhibits. The first room is that ordinarily entered by customers. The exhibits are arranged on the shelves of an antique drugstore, their order being determined by the activity taking place in a pharmacy. The second room exhibits the tools and materials of medical technique needed for preparing tablets and drugs of all kinds. The third room is the laboratory and the fourth is organized as a place where prescriptions were kept together with old editions of pharmacopoeias used at that time, pharmacy treatises, specialized manuscripts and documents.

Numerous bottles with homeopathic products of Brukenal Museum including 1,190 exhibits are also presented. Some of the bottles still contain today small quantities of the substances used and old drugs are preserved in beautiful wood containers. Outstanding are the collections of vessels made of enameled ceramic and manufactured glass, crystal, jaw and wood vessels with signatures painted in the Empire and Baroque styles. Installations of various types, original vials of scales displaying high accuracy, as well as a medical kit comprising 42 pieces. Drugstore furniture made at Vienna in 1802 for another famous chemist's shop in Sibiu called La V. d'urul Negru (The Black Vulture) is also something rare, the same as the porcelain jars manufactured at Arvig (Sibiu county), the pocket microscope used a century ago, as well as Romanian, German and French pharmacopoeias.

Through the originality of its theme and exhibits, Sibiu's museum gives the impression of intensive concern for discovering the effects of various plants and substances, actually a constant concern with the Romanian pharmacopoeia.

V. CORNEA



## THE SAME MONUMENT, A DIFFERENT ADDRESS

Bucharesters passing through Săbău Vodă street recently noticed the intense activity taking place around a celebrated historical monument, a church dating from 1780, also known as the "Stark Nest". Judging by the monument's oldness, its special historical and architectural importance, one could have thought it was being restored. But certain specific elements of the work performed by the team from the House and Road Building Enterprise (raising the building on metal pillars, pouring another foundation etc.) pointed to a different kind of activity, which has also become traditional: the shifting of the monument. Indeed, the integration of the new large boulevard in the urbanistic ensemble being created in this district of Bucharest called for the adoption of this solution, particularly complex from a technical point of view: moving the monument 16.5 metres from its original site. During the shifting, which took place at an angle of 61°, the building's orientation was not

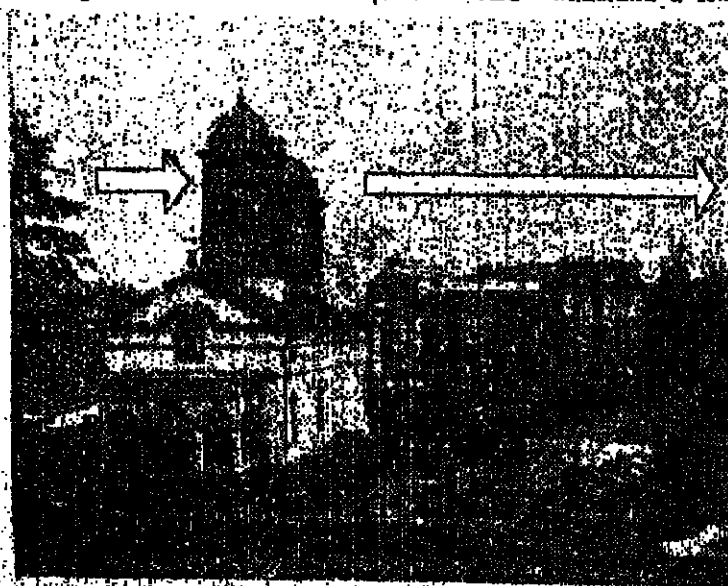
changed, its position being now parallel to its previous one. Unlike previous similar operations, when the shifting occurred by drawing, this time the building was pushed by means of hydraulic cylinders and a group of pumps driven from a common pump. The moving speed was 4.5-5 metres per hour. "We had to change the technology," engineer Eugen Bordenau from the Project Bureau told us — "because of the limited space in which we carried out our activity and of the numerous overage and electric cable laying works taking place for the new apartment complex being erected in this zone."

"Building shifting is a new specialty which debuted in 1957 when a shifting department was set up as part of the Project Bureau Institute. That very year, the sites of two historical monuments were changed in Hoşilor Road and Năvoed. The following year, two blocks of flats in Aurel Vlaicu Street and Stefan cel Mare Road were withdrawn a few

metres from the street, while the tenants were normally pursuing their activities, enjoying absolutely all facilities (water, electricity, gas). In 1955 there followed the shifting of a block in Republicii Boulevard, and of other edifices of special architectural value, the most spectacular operation being the shifting of the historical monument on the Mihai Vodă bridge across the Dimbovitza, which required six months in space. The year 1958 saw the moving of two more monuments, also in Bucharest. Similar translations occurred in Rimnicu Vilcea — the Anton Pann Memorial House, in Miercurea Ciuc — the National Bank, in Rădăuţi, Deva and Alba Iulia — blocks of flats."

"What was the argument in favour of this new type of activity?" I asked my colleague, who answered: "This great historical and architectural value of certain buildings. Each project of this kind requires efforts that have to take into account the smallest details."

HIRCEA SONCUTANU



## MINERS IN THE SKY

On fine days, with gentle winds, in the Făgăraş Mountains and in the Jiu Valley one can see people flying, suspended from lively coloured hang gliders, over the forests. They are sportsmen bearing the colours of the Temerari club in Petroşani. Most of them are miners who, after the working hours spent underground, feel the need to soar and fly in the blue sky, in their leisure.

Although the club was only founded two years ago, many of these flyers have already been granted second and third category certificates by the Romanian Aeronautic Federation. The management of the big Mining Works in the Jiu Valley steadily supports the activity of the club, for which it has arranged a sports base of its own. Members can find here a practice hall, a room for theoretical

classes, a workshop for building hang gliders and an electro-mechanical workshop. Flying minors prefer the hang gliders they conceive and make themselves. For this summer, the club has announced the staging of an all-country hang-glider competition carrying the Petru Poni Cup to which sportsmen from clubs all over the country have been invited.



## BIRD COLLECTOR

Eugen Bordenau is above all a well-known stage director who has won public and critical acclaim for his best theatrical outlook and accurate directorial work. In the northern Moldavian town of Rădăuţi, where he has been living for many years, he has also earned notoriety for his resting bird collection. Passionately and skilfully, Eugen Bordenau looks after numerous and diverse species of birds.



## THE LITTORAL — A SOURCE OF GOOD HEALTH

● A health cure in the Romanian resorts strewn along the Romanian Black Sea coast can be undergone also during the cold season. ● Whatever the season, the littoral can cure a large number of affections, but even more of them can be prevented thanks to important natural factors. ● Eforie Nord, Neptun, Saturn, Mangalia and Mamaia — resorts and treatment bases opened all the year round ● For your vacations the Eforie Sud, Venus and Jupiter resorts lie at your disposal.

Having the shape of a huge arc covering almost 250 km, washed by the Black Sea, the Romanian coast boasts broad shores with fine sand, ultra-modern resorts built in a charming architectural style. There are no sources of pollution, many days are sunny and good for sunbaths, within medium ranges of temperature.

Sited at the same altitude as Venice, the Coto d'Azur and Yalta, the littoral is Romania's warmest geographical area, known for its climatic, well-tempered climate of steppe with temperate marine elements,

and Nunta Zamfiroi (Zamfir's Wedding) which offers a rich folk programme.

In the vicinity there is the TEHLIGHIOI therapeutic lake with sapropelic mud and water with a great concentration of salt.

MAMAIA, sited between the sea and the Mureş river, five kilometres north of Constanţa city, has a few kilometres' uninterrupted beach covered by a finely fine sand. An lushness of vegetation, washed by the sea and the Mamaia lake (especially designed for aquatic sports) com-



rich in ultraviolet radiations and marine aerosols, the sea breeze ensures a stable temperature, a uniform regime of rainfall, permanently refreshing the air saturated with negative ions and aerosols, bearing well-known therapeutic effects.

The Romanian seashore offers multiple treatment possibilities thanks mainly to natural factors — springs of mesothermal waters at Mangalia, sapropelic mud in the Teohlighioi Lake which has exceptional therapeutic qualities, the sea water and many lakes abundant in mineral salts. All these sources are most effectively used by the treatment centres functioning all round the year — modern sanatoriums organized excellently in hotels, equipped according to the demands of world's most advanced medical technology, allowing for a vast and rational therapy.

From Năvodari to Vama Veze a necklace of resorts — Mamaia, Eforie Nord, Teohlighioi, Eforie Sud, Costineşti, Neptun (with the Olimp ensemble of hotels), Jupiter, Venus (with the Aurora range of hotels), Saturn and Mangalia offer tourists a splendid vista with modern hotels built in a both functional and fanciful architecture, surrounded by lakes and a luxuriant vegetation.

CONSTANŢA is the gate for tourism on the Black Sea coast. The largest sea port of the country, Constanţa is also full of museums (history, archaeology, art, with many valuable exhibits), as well as many monuments of architecture and art, performance halls, etc.

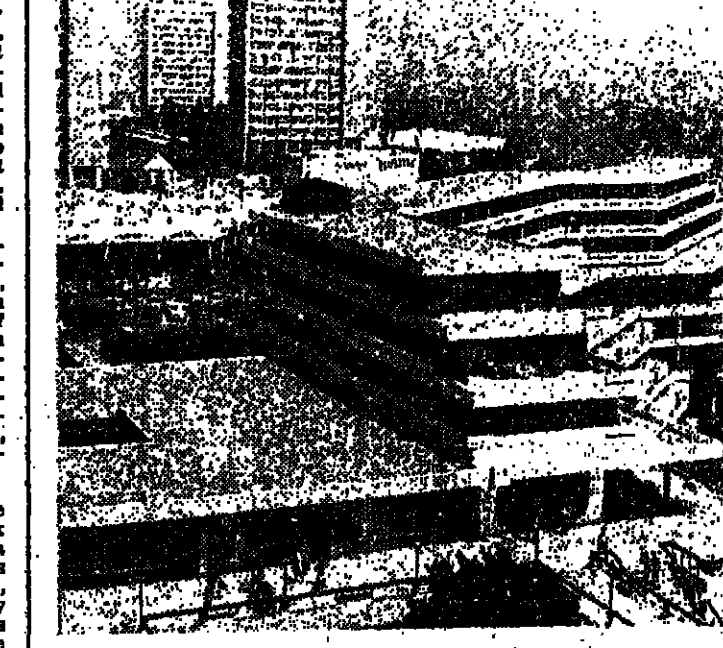
EFORIE NORD, sited between the sea and the Teohlighioi lake, 14 km for summer holidays and at the same time a balneal centre open all round the year. A rich vegetation surrounds an exceptional beach protected by a high seawall offering a vast panorama of the sea.

An important balneal sanatorium with two laboratories and functional explorations, instillation and galvanic baths, underwater showers, a sauna, medical centre for geriatric wards, etc., ensure the treatment of affections of the locomotor system, rheumatological, dermatological, the peripheral nervous system. It has many modern hotels, camps, sports grounds, restaurants, etc. You can find here the famous Romanian restaurant called

Neptun-Olimp, lying six kilometres north of Mangalia town, has a picturesque position, bordering an

area of 50 hotels and large camp grounds, sports halls, a sauna, musky rooms, an Olympic pool, restaurants providing Romanian and international dishes.

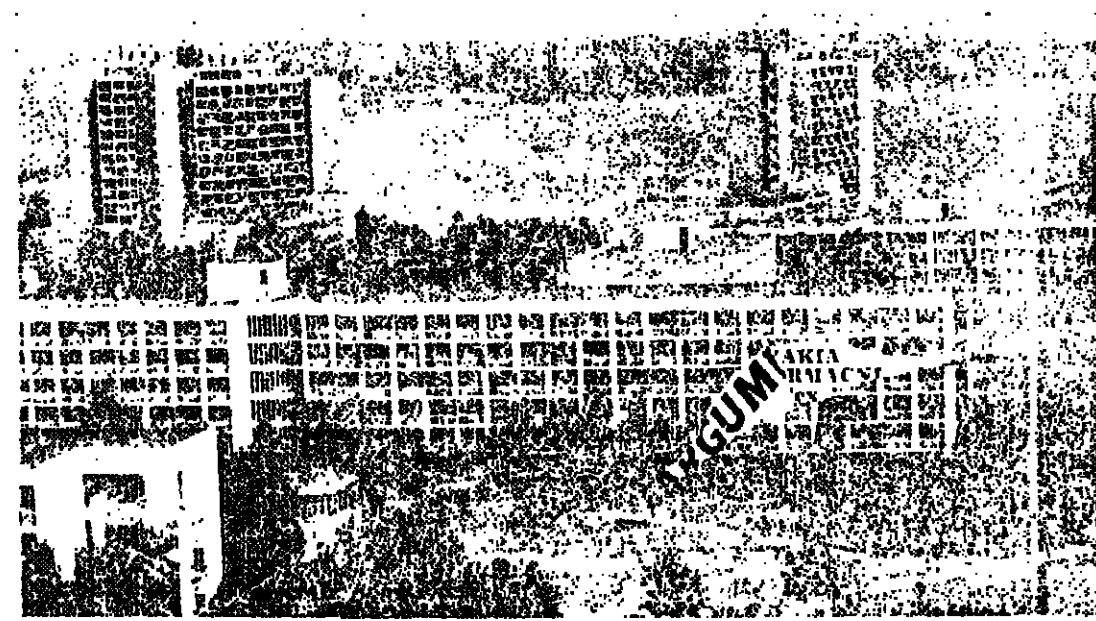
SATURN, lying one kilometre away from Mangalia, is a delightful resort with elegant hotels using glass and ceramic decorative elements, adding to which are villas, tourist villages, sports grounds, restaurants (mention should be made of Pelican offering fish



oysters forest (Comorova). Its hotels boast a varied architecture, remarkable through the simplicity and elegance of their silhouettes. Besides, there are villas, tourist villages, restaurants (offering Romanian dishes), theatres and cinemas.

The balneal polytechnic of the resort is opened all round the year, being furnished with state-of-the-art apparatus, wards for electrotherapy, mud therapy, hydrotherapy, massage, medical gymnastics, physiotherapy, postmenstruation with Pel-Amar.

Two lakes (Neptun I and II) trained for aquatic sports, an indoor pool with heated water, sports grounds and a high Park amusement centre round off the multiple possibilities of recreation offered by the resort. In the northern part of the resort is the Olimpia area with its comfortable hotels, restaurants, swimming, various shops, and bars.



alikes and a folklore programme).

MANGALIA, the southernmost coastal resort (11 km away from Constanţa) has a mild climate, with picturesque old houses alternating with the silhouettes of the modern edifices. The beach is vast and the elegant hotels are spread along the seawall. Here are important archaeological vestiges, an archaeological museum and a house of culture. The Mangalia treatment hotel, opened throughout the year, has a treatment base of hydrotherapy, mud, sea water, and a large sports area. It has a swimming pool, a park, a cinema, all for the treatment of various affections: rheumatism, osteoarthritis, osteoporosis, etc.

EFORIE SUD is a resort sited in an area full of vegetation, with old houses and modern hotels, villas and camp grounds. It offers a magnificent seawall, it provides a treatment with the sea, while for recreation, the resort has pools, sports grounds, etc.

JUPITER has a well-known beach near a forest, a real oasis of freshness. Here, the two Eforie villages (Jupiter and Eforie Nord), the camp grounds, the Pelican amusement centre, the sports grounds and the pools round off the resort's dowry.

VENUS-AURORA, a resort located in the Vama Veze area, has a swimming pool, a park, a cinema, all for the treatment of various affections: rheumatism, osteoarthritis, osteoporosis, etc.

NEPTUN-Olimp is a facility for organizing the youth's international camp every summer. Canyons, camp games, various contests create a youthful atmosphere.

TEHLIGHIOI is a facility for organizing the youth's international camp every summer. Canyons, camp games, various contests create a youthful atmosphere.

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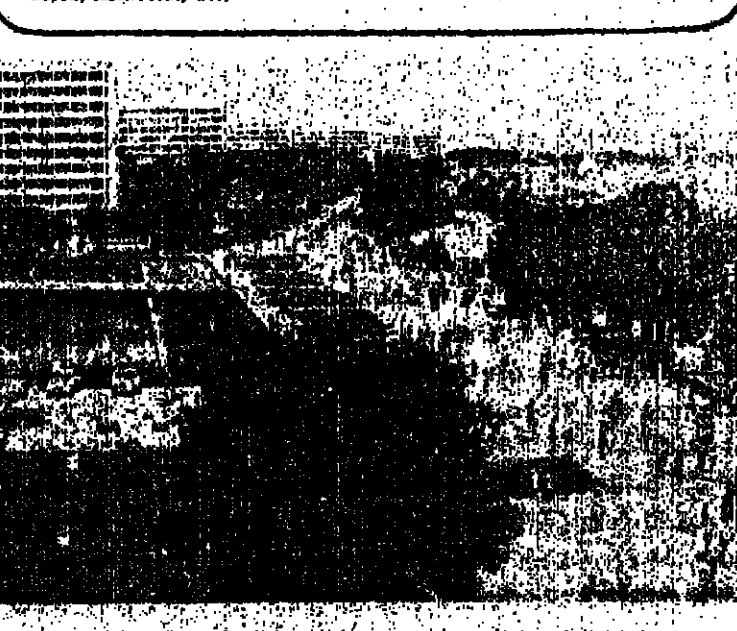
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## THERAPEUTICAL RECOMMENDATIONS

● FOR THE EXTERNAL CURE: degenerative rheumatic affections (cervical dorsal and lumbar spondylitis, arthritis of various kinds); inflammatory rheumatic affections (articular algia, ankylosing spondylitis, psoriatic arthropathy, rheumatoid polyarthritis); rheumatic arthralgic rheumatic affections (tenosynovitis, tendoperiostitis, acroparonychia, paronychia); posttraumatic affections (posttraumatic articular stiffness, physical states after operations on muscles, tendons, articulations and bones, states after sprains, luxations and fractures); peripheral neurological affections (posttraumatic paresis of limbs, polyneuropathy after the acute phase, polyradiculoneuritis in the stage, sequelae after poliomyelitis); affections of the central nervous system (paraparesis after myelitis within three months from its debut, paraparesis after arachnoiditis); generalised affections (ovarian insufficiency, chronic cervicitis, chronic affection of the ovaries and the oviducts, secondary sterility, sequelae after genital TB two or three years after sterilization); dermatological affections; respiratory affections; associated affections (diabetes mellitus, cardiovascular, endocrine, metabolic and nutrition, occupational diseases).

● FOR THE INTERNAL CURE (only at the balneal sanatorium in Mangalia): chronic affections of the digestive apparatus, chronic affections of the biliary ducts, certain metabolic affections and allergic diseases. Mention should be made that these resorts apply treatments with the Romanian original products Pel-Amar, Cerevit, Bulol, Foric, Astavital, etc.



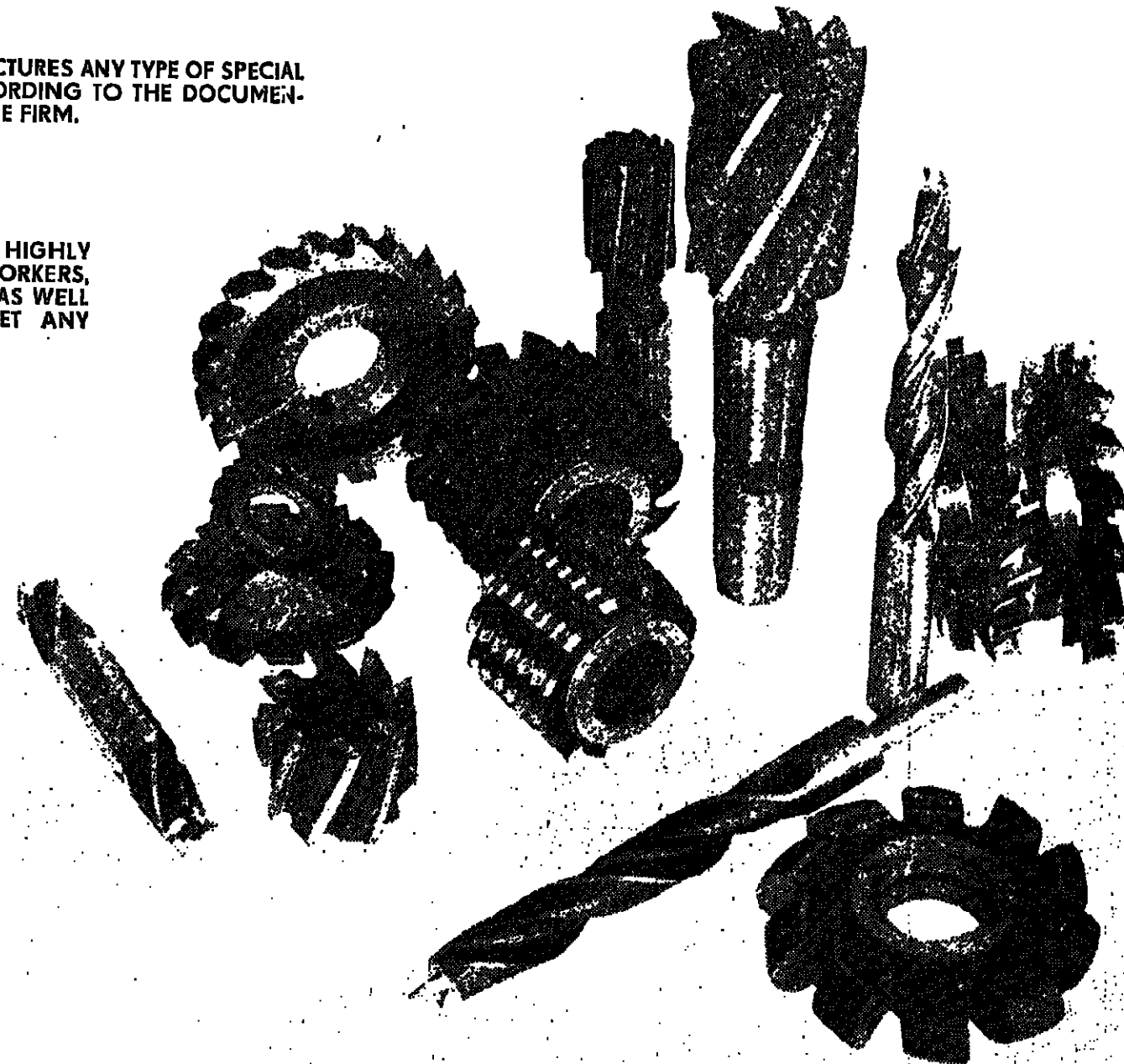
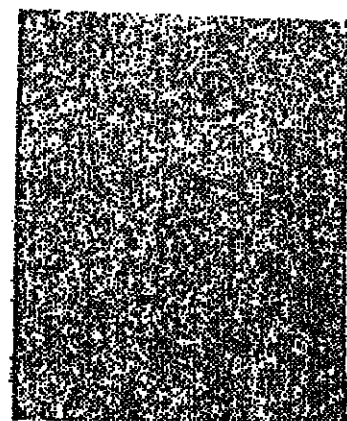


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# ROMANIA LITTORAL '88

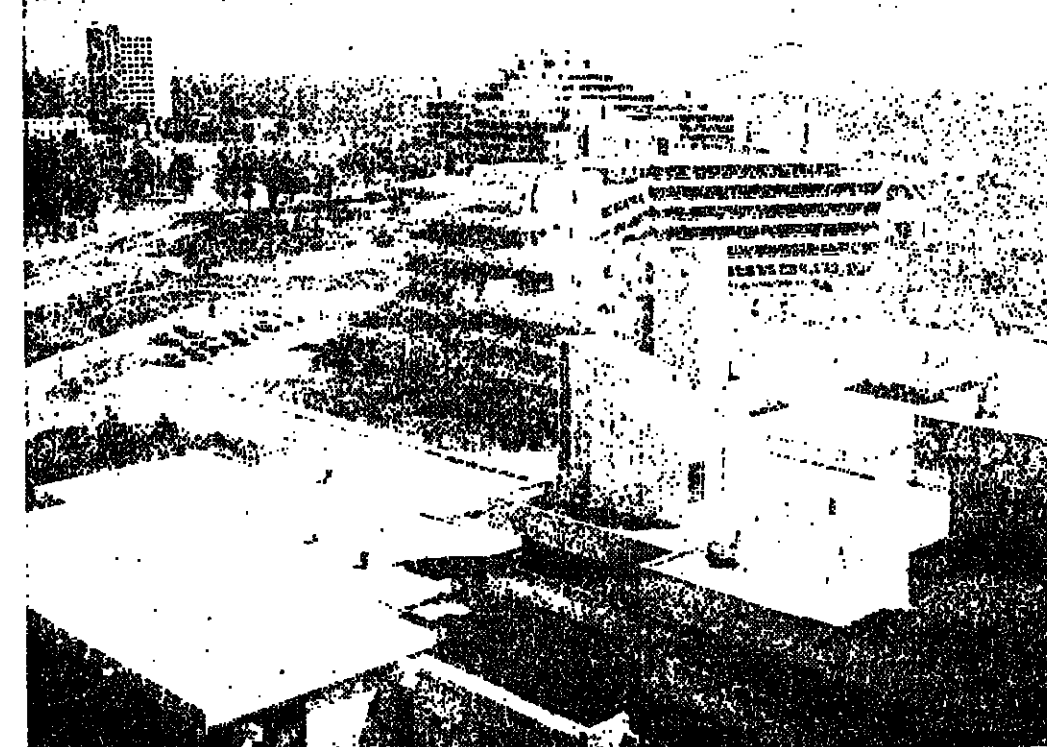
During any season the Romanian Black Sea coast is a source of health, its dowry consisting of :

- sapropelic mud
- lakes rich in mineral salts
- sea water
- mezothermal mineral water springs
- balneal cure centres of international renown
- recreation means of great diversity

Foreign tourists, coming in large numbers to spend their vacations on the Black Sea coast do it not only for the advantage of a mild climate but also for other reasons. Here are some of them :

- very good accommodation and excellent food in elegant and comfortable hotels and restaurants, highly efficient natural factors for balneal treatment, balneal sanatoria with sophisticated medical equipment, multiple possibilities for organizing trips to the surroundings of the Romanian littoral as well as to the Bulgarian Black Sea coast.

Through the wide range of natural conditions, the technical equipment and modern treatments applied, therapy on the Black Sea coast offers good conditions for recovery, prophylaxis as well as treatment all the year round, in Eforie Nord, Mangalia and Neptun resorts.



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